

1895

1922

CITY OF NEW YORK

New York Zoological Society

Founded in 1895 for the establishment of the Zoological Park; conservation of the animal life of the world--fishes, mammals, birds; promotion of zoology through exploration and publication; and, in 1900, the direction of the New York Aquarium in Battery Park



TWENTY-SEVENTH ANNUAL REPORT

INCLUDING

A BRIEF HISTORY OF THE SOCIETY

FROM ITS FOUNDATION

Address: Director Wm. T. Hornaday, Zoological Society at the Zoological Park, 183d Street and Southern Boulevard; Director Charles H. Townsend at the Aquarium, Battery Park; Secretary of the Society at the Society offices, 111 Broadway.

PUBLISHED AT THE OFFICE OF THE SOCIETY, 111 BROADWAY

JUNE 1, 1923

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TWENTY-SEVENTH ANNUAL REPORT
OF THE
New York Zoological Society

New York Zoological Society

Form of Bequest

I do hereby give and bequeath to the "NEW YORK ZOOLOGICAL SOCIETY," of the City of New York,.....
.....
.....

Membership

Membership.—Membership in the Zoological Society is open to all who are interested in the objects of the organization and desire to contribute toward its support.

Classes.—Annual Membership is \$10. This entitles the holder to admission to the Zoological Park on pay days, when the collections may be seen to the best advantage, all publications of the Society, privileges of the Administration Building, lectures, special exhibitions, and ten complimentary tickets to the Zoological Park for distribution.

Annual Members may become Life Members by the payment of \$200; a subscriber of \$1,000 becomes a Patron; \$2,500, an Associate Founder; \$5,000, a Founder; \$10,000, a Founder in Perpetuity, and \$25,000 a Benefactor.

Address the SECRETARY OF THE ZOOLOGICAL SOCIETY,

111 Broadway, New York City.

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JUNE 1, 1923

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THE NEW YORK ZOOLOGICAL SOCIETY

CLARK & FRITTS
PRINTERS
NEW YORK

New York Zoological Society

SUMMARY OF HISTORY

- 1895 (April 26) Society incorporated by the State
Legislature.
- 1895-1896 Presidency of Andrew H. Green.
- 1896-1903 Chairmanship of Henry Fairfield
Osborn.
- 1896-1923 Secretaryship of Madison Grant.
- 1897-1909 Presidency of Levi P. Morton.
- 1899 (Nov. 8) Opening of Zoological Park by the
City and Society.
- 1902 (Oct. 13) Contract with the City for Admin-
istration of the Aquarium.
- 1903-1907 Chairmanship of Chas. T. Barney.
- 1907-1909 Second Chairmanship of Henry
Fairfield Osborn.
- 1909-1923 Presidency of Henry Fairfield Osborn.
- 1909-1923 Chairmanship of Madison Grant.
- 1919 Bequest of Margaret Olivia Sage.
Total received to date, \$636,318.87.
- 1923 Opening of Campaign for \$2,000,-
000 Additional Endowment.



WILLIAM TEMPLE HORNADAY

DIRECTOR OF THE ZOOLOGICAL PARK SINCE APRIL 1, 1896.
AUTHOR AND NATURALIST. LEADER IN WILD LIFE CONSERVATION.
FROM A PORTRAIT PAINTED BY GEORGE R. BOYNTON AND PRESENTED
TO THE SOCIETY MAY, 1921, BY THE EXECUTIVE COMMITTEE.

TWENTY-EIGHT YEARS OF ZOOLOGICAL SOCIETY ACCOMPLISHMENT

By PRESIDENT HENRY FAIRFIELD OSBORN

IN 1894, New York had no center of education in Zoology, no Zoological Park, a small and ill-kept menagerie in Central Park and a small and fairly well administered Aquarium. Twenty-eight years later New York has the largest and most beautiful Zoological Park in the world, with a perfect assemblage of wild animals of all kinds from all parts of the world, a beautiful native forest with hardy and beautifully kept added flora, with unrivaled annual attendance and appreciation by the public. It also has in the Aquarium the largest and most beautifully installed collections of fresh water and marine animals in the world, splendidly displayed and rich in educational value. The annual attendance at these two great institutions exceeds four and a half million visitors. The creation of these two great and influential institutions not only provides unrivaled opportunities for the study of living animals of all kinds, which is the essence of Zoology, but leads to explorations and expeditions of zoological adventure and discovery in many seas and lands. This, in a few words, is the accomplishment of twenty-eight years which the Zoological Society now sets forth in recommending to the City adequate maintenance of the Park and Aquarium and adequate funds for renovation of the old Aquarium building, and in recommending to our citizens further gifts and bequests to the Endowment Fund so that our income may be adequate to the demands of the coming decade.

ORIGIN OF THE SOCIETY, 1894

The idea of a Zoological Park originated in the Boone and Crockett Club in the autumn of 1894. On January 16, 1895, Theodore Roosevelt, president of the Club, appointed a Committee of three—Elihu Root, C. Grant La Farge and Madison Grant, Chairman—who persisted in the State Legislature until a charter was secured. Mr. Grant led this work.

Our Society was chartered on April 26, 1895. The same civic spirit which had established the Natural History and Art Museums, the Public Library and the Botanical Garden was

aroused in the movement to establish a great Zoological Park for the benefit of the people of New York, and to extend the opportunities of Natural History and Zoology which could be found in the halls of the still youthful American Museum. There was no other Zoology in the city worthy of the name and no opportunity to study Zoology, whereas in twenty-two cities of Europe and Asia, and in two cities of America, the Zoological Garden formed a chief center of attraction, education and recreation.

The New York Zoological Society started out with the purpose of extending and cultivating in every possible manner for the people of the City of New York a knowledge and love of nature. The initial objects of the Society, expressed in the Charter of 1895, were the following:

“Said corporation shall have power to establish and maintain in said city a zoological garden for the purpose of encouraging and advancing the study of zoology, original researches in the same and kindred subjects, and of furnishing instruction and recreation to the people, and may purchase and hold animals, plants, and specimens appropriate to the objects for which said corporation is created.”

The ACT “to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the City of New York” was accepted by the City and became a law, April 26, 1895. Among the forty incorporators stand out the names of Andrew H. Green, “Father of Greater New York”, Charles E. Whitehead, Madison Grant and C. Grant La Farge. Mr. Green had in mind merely a Zoological Garden; Messrs. Grant and La Farge had larger purposes for the Society, namely, both a park and the conservation of game.

ORIGINAL PLANS FOR THE WORK OF THE SOCIETY, 1895

Messrs. Osborn, La Farge and Green were appointed a committee to submit a preliminary plan for the prosecution of the work of the Zoological Society. The burden of this report fell upon Messrs. Osborn and La Farge who submitted to the Executive Committee on November 26, 1895, a fifteen page report covering:

- (a) Ultimate Objects of the Society
- (b) Selection of Site
- (c) Relation to Park Board

(d) Immediate Work

(e) Subscription Fund

(f) Management

(g) Summary: That we shall have a large area of land, not less than 300 acres, accessible by both rail and water transportation; that we make the feature of our exhibit, to reproduce natural conditions—the larger Northern animals to be shown in free range, the tropical animals in suitable buildings and enclosures, the marine animals on the shore line by means of tidal ponds; that our relations to the Park Board be defined by a special committee, immediately appointed for the purpose; that the Legislature authorize the immediate beginning of the development of the park site chosen for the Society; that the Legislature authorize the appropriation of \$250,000 for the use of the Society as soon as the Society raises \$125,000 by subscription.*

Detailed reports were also secured from Daniel Giraud Elliot, a widely known zoologist, Dr. Frank Baker, head of the National Zoological Park of Washington and Arthur Erwin Brown, Director of the Philadelphia Zoological Garden. In brief, the best expert advice in America was sought. The immediate work of selecting the site and building the Park was clearly distinguished from the ultimate scientific and educational work of the Society.

After a very careful study of Crotona, Pelham Bay and Van Cortlandt Parks, attention having been deflected from the most available park of all, namely, the Bronx, by Mr. Samuel Parsons, landscape architect and one of the incorporators, Pelham Park was selected.

DEVELOPMENT OF THE PLANS, 1896-1897

As the purposes of the Society enlarged, men with smaller views dropped out one by one, until in 1897, the year in which the First Annual Report was issued, the various purposes of the Zoological Society were clearly enunciated as follows:

“The establishment of a free zoological park containing collections of North American and exotic ani-

*REPORTS ON SITE OF GARDEN, Forest and Stream Publishing Co., 1896. Printed, not Published.

mals, for the benefit and enjoyment of the general public, the zoologist, the sportsman and every lover of nature.

"The systematic encouragement of interest in animal life, or zoology, amongst all classes of the people, and the promotion of zoological science in general.

"Co-operation with other organizations in the preservation of the native animals of North America, and encouragement of the growing sentiment against their wanton destruction."

In the meantime, no less important changes took place in the personnel of the Society. Between the first meeting of the Board of Managers on May 17, 1895, and the fourth meeting of the Board of Managers on January 5, 1897, Andrew H. Green resigned as President of the Society, C. Grant La Farge resigned in order to accept the post of Architect, and the original Executive Committee, who may be considered as the real founders of the Society and pilots of its policies, were elected as follows:

HENRY FAIRFIELD OSBORN, 2nd Chairman of the Executive Committee, 1896-1903, 1907-1909.

MADISON GRANT, Secretary of the Society, 1895-1923.

CHARLES E. WHITEHEAD, 1st Chairman of the Executive Committee.

JOHN L. CADWALADER

PHILIP SCHUYLER

JOHN S. BARNES

C. GRANT LA FARGE, 1st Secretary of the Committee.

This Committee began its labors on January 24, 1896, by electing Mr. Osborn as Chairman and set to work with absolute unanimity of purpose, with constantly expanding ideas and plans and with great personal sacrifice of time and pleasure to create a Zoological Park and Society. The Committee found itself without funds, without prestige, with no political support and very little social support at the beginning of a great undertaking in which it was necessary to combine all these elements in order to bring about the desired result. Messrs. Cadwalader, Schuyler and the second President, Levi P. Morton, helped in this line. The Committee was strengthened by the election of Samuel Thorne, and later of Charles T. Barney and William White Niles.

The City was then under the administration of Mayor Strong and Comptroller Fitch. The Park Department was under Commissioner Samuel McMillan. The first thing to do was to secure a contract with the City, similar to those drawn in 1869 and 1870 by the two Museums. In all these matters Mr. Cadwalader was a wise adviser. No steps could be taken towards such a measure until the Society secured a financial foundation strong enough to give validity to its part of the agreement and a clear conception of its plans. From June, 1895, to December, 1896, twenty-five meetings of the Executive Committee were held at the residence of Mr. Cadwalader or of Chairman Osborn. Mr. La Farge resigned as Secretary of the Committee and his place was taken by Mr. Grant. The original Treasurer, Mr. L. V. F. Randolph, was succeeded in 1900 by Mr. Charles T. Barney. Most of the original incorporators dropped off when it was found necessary to contribute to the initial expenses of the Society and were replaced, one by one, by generous men whose civic pride and spirit were more than nominal. Thus, the present strong and generous Board of thirty-six Managers has been gradually built up, and from the members of the Board of Managers the largest contributions have been made to the Zoological Park up to a very recent period when new benefactors have been attracted by the great services that the Society is doing for the public.

In order to prepare himself for his duties Chairman Osborn first made a special scientific tour of the principal Zoological Parks of western Europe, especially those of England, France, Holland, Belgium and Germany.

It soon became apparent that it was necessary to secure professional advice of an expert of the first order in the Park and, on looking over the United States for the best available man, the Chairman finally made the fortunate selection of Mr. William T. Hornaday, then in Buffalo, New York, but widely known as an explorer, naturalist, author, collector and the first Director of the Zoological Park of Washington. Mr. Hornaday was invited to New York for a personal conference which proved so satisfactory that he was elected Director of the Zoological Park by the Executive Committee on April 1, 1896. This selection was made on a principle which has been followed in all succeeding appointments, namely, to find the best qualified

man in the United States for the position with a scientific record behind him and to give him a very large measure of encouragement and authority.

With this principle the Society made a choice of men of scientific training as "curators" rather than engaging "animal keepers" of the old fashioned type. On this principle Mr. Hermann W. Merkel was chosen the head of the landscape administrative section of the Park grounds, Raymond L. Ditmars, an expert herpetologist was placed in charge of reptiles, William Beebe, a promising ornithologist was placed in charge of birds. The pathological study of the animals also began early under Dr. Frank H. Miller who was later succeeded by Dr. W. Reid Blair, an expert veterinarian. Thus, the work of the Society was put on an artistic and scientific foundation from the beginning and the scientific spirit has been encouraged throughout.

Director Hornaday entered upon his duties with great enthusiasm, energy and intelligence. He was sent on a long tour abroad to study all the different Zoological Parks of western Europe, during July and August of 1896, examining one park each in England and Belgium, three in Holland, eight in Germany and two in France, reporting on privileges to the public, maintenance, grants of land, courses of administration, areas of gardens and effects of the closed system. He concluded his report with a demonstration that the character and availability of South Bronx Park met ten of the absolute requirements of an ideal zoological garden. A thorough examination of South Bronx Park with the ten features required decided the Committee that this Park met all these features in an ideal manner and the Executive Committee unanimously approved Director Hornaday's report.

South Bronx Park was selected, an application for 261 acres was prepared and on May 21, 1896, was presented to the Commissioners of the Sinking Fund in accordance with the terms of the Society's charter. The Committee appeared before the Commissioners of the Sinking Fund and this led to the preparation of a contract, drawn by Mr. Cadwalader, with the Department of Parks, prepared along somewhat similar lines to those in force between the two great Museums and the City. This Contract appears in full at the end of the Report.

CREATION OF THE ZOOLOGICAL PARK

Informed with all the best ideas of Europe, with a superb piece of meadow land and forest, at the time in very disordered condition, a topographical survey was made and modelled and a general plan was drawn up with great taste and good judgment by Director Hornaday, endeavoring to preserve all natural features and, so far as possible, without cutting any fine trees, to provide an inner circle of large buildings and an outer circle of large semi-wild natural enclosures. The advice of some of the best landscape architects of the country was sought. For a brief period Warren H. Manning of Boston was employed, for a long period James L. Greenleaf of New York, also Miss Beatrice Cadwalader Jones, and Mr. H. A. Caparn of New York, especially in the development of Baird Court.

Chairman Osborn and the Executive Committee gave as close personal attention to this question, requiring taste and experience, as they would have given had they been laying out one of their own country places. The architects, Messrs. Heins and La Farge, drew up a set of building plans which finally resulted in the preparation of a bird's eye perspective view of a completed Zoological Park which was of very great value in impressing the Park Commissioner with the future beauty of this remarkable tract of land. Baird Court and the Concourse approach from Pelham Avenue was one of the most difficult problems which was solved by the Chairman and Mr. H. A. Caparn after many months of study. It is now pronounced an admirable entrance of its kind. The historical and commemorative features of great American Zoologists, suggested in the Director's plan, were all approved and the "Preliminary Plan" (see folder in First Annual Report of 1897) was submitted.

Step by step these plans were developed until the final plan was adopted unanimously by the Executive Committee at its meeting on November 9, 1897. This plan was substantially the Zoological Park of today with the exception of the diagonal pathway entrance from the southern gate through the Buffalo range. Many difficulties were overcome and the Executive Committee held no less than forty-one meetings during this period of planning for the beginning of construction.

CONTRACT WITH THE CITY

The City, which had welcomed the plans of the Museums almost on their own terms, grew rather hardhearted with the Zoological Society and replied that \$250,000 must be contributed within the period of three years towards building and equipment of the Society itself and the development of the Park. This proved to be a blessing in disguise because it led to a very active campaign, mainly carried on by Madison Grant, for initial funds with which the Park could be established. The names of contributors of \$2,500 and upwards to this PARK IMPROVEMENT FUND of \$253,235.07 are here printed:

Levi P. Morton	\$ 6,500
William K. Vanderbilt	6,000
William E. Dodge.....	5,000
J. Pierpont Morgan.....	5,000
William D. Sloane.....	5,000
C. P. Huntington.....	5,000
George J. Gould.....	5,000
Andrew Carnegie	11,500
Mrs. Antoinette Eno Wood.....	5,000
Mrs. John R. Trevor.....	5,000
John S. Barnes.....	5,000
F. Augustus Schermerhorn.....	5,000
Morris K. Jesup	2,500
Charles T. Barney.....	5,000
George Crocker	2,500
Samuel D. Babcock.....	2,500
Charles F. Dieterich.....	5,000
Arnold, Constable & Co.	2,500
Oswald Ottendorfer	5,000
Percy R. Pyne.....	7,000
Robert Goelet	5,000
Jacob H. Schiff.....	6,500
William C. Whitney.....	6,000
Henry A. C. Taylor.....	6,000
Cornelius Vanderbilt	7,500
Samuel Thorne	10,000
Miss Helen Miller Gould.....	5,000
John L. Cadwalader.....	5,000
Philip Schuyler	2,500
Tiffany & Co.....	2,500

Edward J. Berwind.....	5,000
Henry Fairfield Osborn.....	2,500
James C. Carter.....	2,500
Hugh J. Chisholm	3,050
John D. Rockefeller.....	5,000

A full list of gifts towards buildings by members and friends of the Society to the present day is contained in the succeeding article by Dr. Hornaday in the present Annual Report. In accordance with its original agreement with the City the Society has constructed in the Zoological Park 12 buildings, 14 installations for animals and other improvements at a total cost of \$402,002.69.

The active work of building began on August 15, 1897, and continued during the next eighteen years. It was fortunately a period of rapid expansion and generous expenditure on the part of the City of New York and under the successive administrations of Mayors Van Wyck, Low, McClellan, Gaynor and Mitchel, the City made the following large appropriations for buildings and improvements:

VAN WYCK	{ 1900	\$125,000.00
	{ 1901	300,000.00
	{ 1902	250,000.00
LOW	{ 1903	250,000.00
	{ 1904	275,000.00
MCLELLAN	{ 1905	275,000.00
	{ 1906	250,000.00
	{ 1907	100,000.00
	{ 1908	65,000.00
	{ 1909	10,000.00
	{ 1910	89,500.00
GAYNOR	1911	155,000.00
MITCHEL	1915	21,425.00
Total		<hr/> \$2,165,925.00

Note:—The appropriations for each year are granted by the Board of Estimate the previous year.

The Zoological Park was opened to the public on November 8, 1899. From that date to this, the total attendance has been 35,994,071.

The building program of the Zoological Park was practically completed in 1922 when the National Collection of Heads and Horns was opened to the public in a beautiful building presented to the City by ten members of the Society at a cost of \$145,646.95.

IN 1902 THE CITY INVITED THE SOCIETY TO ADMINISTER
THE NEW YORK AQUARIUM

Two years after the opening to the public of the Zoological Park the City, through Mayor Seth Low, invited the Society to take over the administration of the Aquarium. A long correspondence ensued in the year 1902. The impression made upon the public at the time is shown in an editorial in the New York Evening Post: "The New York Zoological Park is making such striking progress in variety and importance of its exhibits that it is rapidly taking the leading place among the attractions of the metropolis. Its management is not only discreet and dignified but enterprising and liberal." At the same time there occurred in a leading society journal the note: "Not to be in the Zoological Society is not to be in society."

The Aquarium Zoological Society contract was signed almost a year later on October 13, 1902. Chairman Osborn again set about to discover the best available man in the United States to fill the post of Director on the principle that the most expert scientific training combined with executive and administrative ability was an absolute requisite in the Aquarium as well as in the Zoological Park. Acting on this principle, the Society invited Dr. Charles H. Townsend of the United States Fish Commission to leave the Commission, in which he had been engaged as expert and navigator since 1883, to take the head of the Aquarium. This position Dr. Townsend has filled with distinguished ability and has made the New York Aquarium not only the most popular institution of its kind in the world but has given it an excellent scientific standing through the breeding of fishes, through its co-operation with the public schools, in breeding living aquaria, through its scientific researches, publications, and expeditions to local and more distant waters, conducted under his care. The public attendance under his direction, without a single accident or complaint worthy of record, in an old building with many defects of construction, is in itself a testimonial to his administration of the first order.

During the twenty years that the Aquarium has been under the management of the Zoological Society the building has been improved in many ways with funds furnished by the City and the Zoological Society. Improvements made with funds furnished by the Zoological Society include an electric pumping plant costing \$69,788.05, a collecting boat, enlargement of exhibition tanks, purchase of specimens amounting to \$21,321.55, extra compensation, architects fees deficits paid by Society, etc. *The total expenditures by the Zoological Society amount to \$115,937.37.*

The list of improvements is a long one and need not be given in detail. The principal improvements made by the City include a reservoir for pure sea water, construction of pipe galleries under the building, enlargement of skylights, new ventilating system, lead lined piping, enlargement of exhibition tanks and a sea-water filter. *The total cost of improvements by the City amounts to \$122,303.89.*

Following is the list of attendance at the Zoological Park and at the Aquarium while under the direction of the Zoological Society:

AT THE ZOOLOGICAL PARK		AT THE AQUARIUM	
From the date of opening, Nov. 8, 1899, to		From the beginning of the ad- ministration by the Zoological Society:	
1902	1,142,915	1902	1,700,453
1902	731,155	1903	1,547,873
1903	1,169,146	1904	1,625,770
1904	1,104,616	1905	1,726,170
1905	1,233,518	1906	2,106,569
1906	1,321,917	1907	2,131,393
1907	1,276,041	1908	2,536,147
1908	1,413,741	1909	3,803,501
1909	1,614,953	1910	3,003,511
1910	1,441,342	1911	2,011,544
1911	1,481,905	1912	2,144,355
1912	1,708,455	1913	2,205,729
1913	1,943,683	1914	2,029,707
1914	2,045,857	1915	1,538,831
1915	1,780,077	1916	1,499,667
1916	1,656,820	1917	1,595,118
1917	1,898,414	1918	1,450,609
1918	1,770,437		

1919	2,035,858	1919	1,850,575
1920	2,250,177	1920	1,994,548
1921	2,562,138	1921	2,376,840
1922	2,410,906	1922	2,121,996
	<hr/>		<hr/>
	35,994,071		43,000,906

Grand total of attendance at Zoological Park and Aquarium while under the direction of the Zoological Society—78,994,977.

The development of the Aquarium parallels that of the Zoological Park in the personal sacrifices of time, of money and of expert interest on the part of a group of the busiest citizens of New York, namely, our Executive Committee.

About this time, Chairman Osborn, who had given seven years of very continuous service to the Zoological Society, resigned as Chairman of the Executive Committee on January 20, 1903, and Mr. Charles T. Barney was elected in his place. Upon Mr. Barney's death in 1907 Mr. Osborn again became Chairman, serving until 1909 when Mr. Madison Grant succeeded him.

GIFT SUMMARY OF TWENTY-EIGHT YEARS

Gifts by the Zoological Society to the Zoological Park in Buildings and Enclosures Open to the Public.....	\$402,002.69
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Gifts by the Zoological Society to the Renovation and Improvement of the Aquarium in Battery Park.....	77,333.08
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Contributions by the Zoological Society to Make Up Deficiencies in the City Maintenance Fund of the Park	77,213.17
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Contributions by the Zoological Society to Make Up Deficiencies in the City Maintenance of the Aquarium	4,803.43
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Gifts of Animals to the Zoological Park by the Zoological Society..	369,088.56
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Gifts of Animals to the Aquarium by the Zoological Society.....	21,321.55
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Gifts by the Zoological Society to the Heads and Horns Museum Now Open to the Public.....	26,301.58
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Contributions by the Zoological Society to the Pension Fund of Employees of the Zoological Park and Aquarium	67,333.33
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Gifts of Books and Paintings by the Zoological Society to the Administration Building. Open to the Public by Special Application.....	35,663.69
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Expenditures by the Zoological Society in the Administration of the Park and of the Aquarium in Scientific Expeditions and Collecting Trips, in Printing and Publication of Scientific and Educational Papers Available to the Public.....	838,527.91
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<i>Grand Total of Gifts and Contributions from 1896 to 1922 inclusive</i>	\$1,919,588.99
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SCIENTIFIC WORK OF THE SOCIETY

The scientific work of the Society began as soon as the Zoological Park was opened in the carefully recorded observations of the two scientific curators, William Beebe, Curator of Birds, and Raymond L. Ditmars, Curator of Reptiles, as well as in the observations of Director Hornaday on the general care of animals. Unfortunately, these records on the expert care of animals in captivity have never been published.

There could be no thought of scientific work outside of the Park and Aquarium until collections were thoroughly established but Curator Ditmars began his publications on reptiles in the Annual Reports, beginning in 1902, which culminated in his valuable volume, THE REPTILE BOOK. His other publications include REPTILES OF THE WORLD, STORY OF THE REPTILES and POISONOUS SNAKES OF THE UNITED STATES, aside from numerous scientific articles in the NEW YORK ZOOLOGICAL SOCIETY BULLETIN, ZOOLOGICA and in the American Museum Journal.

Curator Beebe, summing up his close observations on birds, published a series of articles in the early Annual Reports, in

ZOOLOGICA and in the BULLETIN of the Society, and in addition the following volumes: TWO BIRD LOVERS IN MEXICO, THE BIRD, THE LOG OF THE SUN, OUR SEARCH FOR A WILDERNESS, TROPICAL WILD LIFE (Beebe, Hartley and Howes), A MONOGRAPH OF THE PHEASANTS, JUNGLE PEACE and EDGE OF THE JUNGLE.

From these publications Mr. Beebe has taken his place among the most popular of American writers. After three journeys into the tropics, which presented the greatest attraction for him, on the urgent advice of Chairman Osborn he was released in December, 1909, from his active duties as Curator of Birds and began his tour of the world in search of material for A MONOGRAPH OF THE PHEASANTS. Col. Anthony R. Kuser, a member of the Board of Managers since 1913, financed this two-year tour and through his munificence the superb four volumes of A MONOGRAPH OF THE PHEASANTS, the finest work of its kind ever published, were issued. The edition is limited to 600 sets at \$250 each. For the second volume, the author was awarded in 1919 the Daniel Giraud Elliot Prize of the National Academy of Sciences.

The manuscript of the four volumes was hardly complete when Mr. Beebe was appointed Director of the Tropical Research Station of the New York Zoological Society and began his seven years' work in British Guiana, thus establishing the first permanent station for intensive biological work in the history of zoology. This splendid work has been supported mainly through the contributions of successive years of a sum totalling \$47,300 from the following members of the Board of Managers:

Andrew Carnegie	Anthony R. Kuser
James J. Hill	Edmund C. Converse
Cleveland H. Dodge	Edward S. Harkness
C. Ledyard Blair	George F. Baker
Mortimer L. Schiff	George D. Pratt
A. Barton Hepburn	Frederic C. Walcott
George J. Gould	Coleman du Pont
Lewis Rutherfurd Morris	

In the year 1923 Mr. Harrison Williams presented the Tropical Research staff under Director Beebe with a trip on the powerful steam yacht, the *Noma*, to the Galapagos Islands, off the west coast of South America.

SCIENTIFIC PUBLICATIONS

The scientific publications of the Society appeared first in a series of papers in the Annual Reports between the years 1897 and 1907. Then, as they became more important and in wider demand, they were published in the bulletins constituting the volumes of ZOOLOGICA, which is now in its third volume. One hundred and seventy-five copies are distributed to institutions of learning and research in different parts of the world.

DEARTH OF ENDOWMENT FUND

The Society now needs \$2,000,000 of new general endowment in order to meet its ever widening demands in its service to the public in the Zoological Park and in the Aquarium; in educational service to the schools of Greater New York; in the maintenance of its scientific explorations and publications. An added income of \$100,000 annually from such a new endowment will enable the Society to reach all the public schools of the City and to arrange for periodic visits of school children both to the Park and Aquarium, thus greatly extending its educational influence.

The outstanding contributors to the Endowment Fund up to the present time are the following:

Margaret Olivia Sage—(General Endowment)	\$636,318.87
Andrew Carnegie—(Pension Endowment)	100,000.00
John L. Cadwalader—(Animal Endowment)	20,000.00
Caroline Phelps Stokes—(Bird Endowment)	5,000.00
Jacob H. Schiff—(General Endowment)	50,000.00
Maria De Witt Jesup—(Bequest)	25,500.00
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Edmund C. Converse—(Bequest)	50,000.00
Cleveland H. Dodge—(Gift)	25,000.00
Samuel Thorne—(Gift)	25,000.00
J. P. Morgan—(Gift)	20,000.00

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Mrs. Russell Sage	\$ 10,000.00
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Edmund C. Converse	10,000.00
George D. Pratt	10,000.00

CONSERVATION OF WILD ANIMAL LIFE OF THE WORLD

The third great purpose of the establishment of the Society, namely, preservation of the wild life of America and of the world, has been mainly advanced through the militant and intelligent efforts of Director Hornaday. He, through his personal influence, has secured a splendid endowment of over \$100,000 as a WILD LIFE PROTECTION FUND. Following is a list of contributors of amounts from \$1,000 and upwards:

Mrs. Russell Sage	\$25,000.00
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By means of this Fund he has issued three volumes, STATEMENT OF THE PERMANENT WILD LIFE PROTECTION FUND, Vol. I, 1913-1914, Vol. II, 1915-1916, Vol. III, 1917-1918-1919. In addition, Dr. Hornaday has published two books on conservation which will prove of world wide influence, namely OUR VANISHING WILD LIFE and WILD LIFE CONSERVATION IN THEORY AND PRACTICE.

Director Hornaday also has produced the following books on Zoology and Conservation, to say nothing of his scientific papers, since 1902:

"American Natural History" (sixth edition).

"Minds and Manners of Wild Animals" (four editions).

"Camp-Fires in the Canadian Rockies" (eight editions).

"Camp-Fires on Desert and Lava" (four editions).

A close second is the work of Chairman Grant, directly through his personal influence and efforts, and indirectly through the Boone and Crockett Club, especially in securing favorable legislation. President Osborn has backed up conservation movements, especially as regards mammals, birds and forests, preparing and issuing a series of seven brochures on this subject, and uniting with Mr. Grant in the creation of the SAVE-THE-REDWOODS movement which is now making splendid progress under the direction of leading Californians.

FUTURE OF THE SOCIETY

The President trusts that this all too brief survey of the twenty-eight years of accomplishment by the Zoological Society may be the means of arousing similar civic and self-sacrificing spirit, combined with ability and intelligence, among the rising generation of younger men in the City of New York who, during the World War, have shown their devotion to their country in a most brilliant manner.

In times of peace these young men must show their devotion to the great community in which they live. Nothing can be accomplished without great personal sacrifice. Every one of the 299 meetings of the Executive Committee, which have been held, represents distinct personal sacrifice, the surrender of some pleasure for the public good. Now that the great result is accomplished it is a relatively simple matter to carry it on, but through the years new difficulties, scientific, social and political, are constantly arising. The political situation and personnel in our great City are constantly changing. New men are coming into office who were born since the Society was established and even since the City invited the Society to take over the Aquarium. Eternal interest and vigilance are needed. New problems will also arise in maintaining the very high standard of exhibition in the Zoological Park which has been established through the untiring ability of Director Hornaday and in the equally high standard of the Aquarium, set by Director Townsend. Both these institutions are the greatest of their kinds in the world. The young men of New York must see that they never fall below this standard.

ADMINISTRATION BUILDING OF THE SOCIETY, ZOOLOGICAL PARK

April, 1923



THE NEW HEADS AND HORNS MUSEUM

Erected by the Society to house the great collection of heads, horns and antlers and opened to the public in May, 1922. Presented in 1922 to the Zoological Park as a gift of the Members of the Society

Photograph by Elwin R. Sanborn

THE ZOOLOGICAL SOCIETY'S GIFTS TO THE PEOPLE

THE STORY OF 25 INSTALLATIONS IN THE ZOOLOGICAL PARK.

By WILLIAM T. HORNADAY, *Director.*

TO cities, states and nations there are gifts and gifts. Individuals and societies give statues, monuments and memorial buildings which to the extent of 25 or 50 per cent. will stand forever as monuments to their own taste, or generosity, or patriotism, as the case may be. Rarely, however, does anyone go to the trouble and expense of giving something solely useful to the masses, of a totally un-monumental character. But, wait long enough and the exception may come.

When the new and untried Zoological Society of 1899 offered to go in partnership with The People of New York in creating a Zoological Park of staggering proportions, the acceptance of that proposal entailed upon the Society a huge burden. Of that burden only the outlines were dimly seen. But the infant Society was unterrified, and boldly made the plunge into a sea of unknown depth.

Looking back through a vista of 27 years at the weakness and the rawness of the situation in 1896, the founders of the Zoological Society must admire their own audacity and courage.

It was a foregone conclusion that the new organization would have to struggle hard for a place in the sun, and to prove its right to exist. By the great public museums and libraries already in existence, New York's educational philanthropy had been squeezed dry of cash. Nothing but crumbs and husks then remained for the new undertaking,—and what is more, that condition has continued, down to the present hour.

The City government of Mayor Strong hesitated about accepting the partnership in Zoological Park building that the Society proposed. The sledding became so hard that finally the Society said to the City:

“Now, come. In this matter New York is already fifty years behind the times. As an earnest of our good faith, and



AQUATIC BIRD HOUSE

Presented in 1899 to the Zoological Park as a gift of the members of the Zoological Society
Photograph by Elwin R. Sanborn

for the purpose of showing you some good works, the Society will guarantee to expend \$125,000 of its own money in permanent improvements, and if you treat us right we will go on and make it \$250,000."

The Government was amazed, and pleased, by this very spirited and absolutely unprecedented offer. Nothing like that had ever happened before. The Zoological Park site was at that time nothing but a wild and unkempt wilderness.

"Done!" said Mayor Strong.

The Society's superb "Final Plan" was formally adopted and copiously signed by both parties. Work began the next week. That was in the spring of 1898. The translation of that historic plan into cut stone, steel beams, fine brick, terra cotta, cage work and concrete, began to unroll like a panorama. Each passing month added to its momentum.

By midsummer of 1899 the Zoological Park site was a scene of activity that made beehives look like palaces of slumber. Twenty-two contracts were proceeding simultaneously, and an army of franc-tireur workmen was on the miscellaneous work. All this was possible because the Society was spending its own money, and there was no red tape to hinder or to halt activities. The City also was busy in making temporary walks, digging sewers, laying water lines and building temporary entrances.

The Zoological Society began its program with the construction of a fine and highly improved *Reptile House*. This was for the reason that the human millions of New York knew about "show animals," but were densely ignorant of the reptiles of the world. "In this Reptile House," said the Society, "we will show the people of New York what we mean to have as an up-to-date Zoological Park."

This choice of Building No. 1 was wisely made. Instead of cheap and plain, small in design and cramped in execution, it was made a grand affair. Externally it is rich and handsome, but the interior of its main hall is very imposing. Its heated alligator pool at one end, backed by a living tropic jungle, is beautiful as well as unique. In its warm water 'gators and crocodiles grow with a degree of rapidity that quickly sets new records for saurians in captivity. Here, cleanly and comfortably kept, the visitor found—and still finds—a marvellous collection of living serpents small and great,—harmless and



GREAT FLYING CAGE FOR BIRDS

Presented in 1900 to the Zoological Park as a gift of the members of the Zoological Society
Photograph by Elwin R. Sanborn



INTERIOR OF FLYING CAGE

All of the animal collections have been presented to the Zoological Park as a gift of the members of the Zoological Society through privately subscribed funds, and by purchase from the net proceeds of the sales of the Privileges

Photograph by Elwin R. Sanborn



REPTILE HOUSE

Presented in 1899 to the Zoological Park as a gift of the members of the Zoological Society
Photograph by Elvin R. Sanborn

deadly,—great lizards, small lizards, turtles, giant tortoises, and a representative collection of the alligators, caymen, crocodiles and gavials of the world. Today, the reptile collection is at the highest point it has ever attained, but Curator Ditmars is always watching for “more.” Best of all, these reptilian treasures are thoroughly studied and appreciated by the school classes of New York, New Jersey and Connecticut, and by men of science as well.

The Reptile House is a Hit of Hits.

And what, think you, was the Society’s second and third gift to the City of New York? Few persons could guess.

It was the *Aquatic Bird House* and its Siamese twin, the great *Flying Cage*.

The Designer of the Zoological Park recognized the need of the public for a really great collection of large and important tropical water birds, generously installed, and visible both winter and summer. Lions, tigers and elephants were all very good in their ways; but they have for years been seen in circuses, whereas the water birds of America were to New Yorkers generally like a sealed book.

The magnificent Flying Cage is one of the great show pieces of the Park. It is 150 feet long, 75 feet wide and 55 feet high. Although it is so huge, and was made to enclose a virgin oak of no small size, its skeleton construction of steel pipe and wire netting is so light-looking and so airy that it is a delight. Its size is “just right,” and it has made its bird habitants very contented and happy. Its swimming pool is 120 feet long, and in it and around it great flocks of pelicans, tropical ducks, gulls, terns, cormorants, ibises, spoonbills, herons and egrets furnish continuous moving pictures—and instruction. In the fine and substantial Aquatic Bird House, nearby, these birds, plus the flamingoes and adjutants, are displayed during the cold-weather season, and the colder the weather outside the more cheerful are the squawks and cries of the feathered company within.

At this point the *Museum of Heads and Horns* breaks into the chronological sequence of this story in order to fill the position it deserves. Although it is the Society’s latest gift to the City, it is impossible to place it last.



PORTON OF THE BEAR DENS

Presented in 1899 to the Zoological Park as a gift of the members of the Zoological Society
Photograph by Elwin R. Sanborn

The National Collection of Heads and Horns was founded and formed as a duty owed to the American people and to the vanishing big game of the world. It seemed necessary to "get while the getting was good," and before further exterminations of species rendered it too late.

During sixteen years of effort the collection grew enormously, and in number and quality of specimens, it realized the dreams of its founders. *But the general public could not see it!* It was stored on the walls of the Administration Building to which it was—and is—impossible to admit 2,500,000 annual visitors. Clearly, the only way in which the Collection could be made available to the public would be by installing it in a spacious and well-lighted permanent building specially designed to contain it. Ten members of the Society subscribed the \$146,000 necessary, and the fine new Museum of Heads and Horns is the result. The two collections that it displays—"Zoological" and "Geographic,"—are exceedingly rich, and they contain representatives of all the horned and tusked animals of the world save a very few small and obscure species that only the professional zoologists know. The cash value of the specimens is about \$450,000 and it may in all justice be added that the world contains nothing else like it. Fancy the sensations of the student or sportsman who, in the Zoological Hall, can, for the first time, in one cycloramic view behold practically all the "big game" species of the world, arranged in accordance with the system of Nature!

In 1898-9 the Society developed its own peculiar ideas regarding the keeping of bears in comfortable captivity, and built eight huge dens. A little later on it added the Polar Bear's Den,—the finest of all, and the City built the remainder.

The Designer of the Park planned its animal installations on the basic principle that "a wild animal that cannot be kept in *comfortable* captivity should not be kept at all." If any bears in the world, captive or wild, are any more comfortable or more contented with life than ours, we have not discovered them. Today the life of every wild bear is a ceaseless round of fear, and stress and struggle for (1) safety, (2) food, and (3) personal comfort.

Our bear dens were designed to afford all their inmates the following factors making for good health and daily happiness:



SUNDAY VISITORS ON BAIRD COURT

Since the opening day, November, 1899, over 35,994,071 persons have passed through the entrance of the Zoological Park. The largest attendance for one day was 73,882

Photograph by Elwin R. Sanborn

Sunlight, shelter, smooth and level playgrounds, swimming-pools, companionship, the sight of other bears, and finally,—a matter of prime importance,—intimate acquaintance with visitors, at a distance of only *five feet*.

The playfulness of our bears, from cubhood practically up to middle age,—is ample proof of their enjoyment of life. The fact that many of our bears live until they die of *old age* is evidence of the sanitary conditions surrounding them. The extent to which they are modeled and painted by scores of sculptors and artists, and the study of them by students indicates the value of the five-foot basis of personal acquaintance.

Next in importance after the Bear Dens came the building of a brick structure known as the Bird Laboratory, for the research work on birds of Mr. William Beebe, Director of the Society's Tropical Research Station in South America. This building is secluded from the streams of visitors and it adjoins the Winter House for Birds of Prey, near the Eagles' Aviary. It affords ample room for Mr. Beebe's work, and the seclusion that such work demands.

But it is impossible to enumerate all the Society's gifts to the City under the head of permanent improvements. They vary widely in their purposes, and the items are numerous; and a brief summary must suffice.

When the grand rush of construction in 1899 ended on November 9, with the formal opening of the unfinished Zoological Park, the entire series of 22 installations for mammals, birds and reptiles had been created by the Zoological Society at the expense of its own treasury. Automatically they became the property of the City as fast as they were completed. Since that date four other buildings have been erected at the Society's expense. Today the full list of permanent improvements presented to the City by the Society stands as follows:

- The Heads and Horns Museum.
- The Reptile House.
- The Aquatic Bird House.
- The Bird Research Laboratory.
- The Original Small Mammal House.
- The Rockefeller Fountain.
- The Shelter House for Park Vehicles.
- The Buffalo House.



THE CONCOURSE—ZOOLOGICAL PARK

Automobiles of visitors and the members of the Society parked in the Concourse on Garden Party Day
Photograph by Elwin R. Sanborn

The Musk-Ox House.
 The Elk House.
 The Red Deer House.
 The Wild-Horse House.
 The Asiatic Deer House.
 The Axis Deer House
 The Bear Dens (First 8 only).
 The Polar Bear Dens.
 The Wolf Dens
 The Fox Dens.
 The Flying Cage.
 The Burrowing Rodents Quarters.
 The Mountain Sheep Hill.
 The Beaver Pond.
 The Otter Pools.
 The Sea Lion Pool.
 The Alligator Pool (now Cape Fur Seals).
 The Goose Aviary.
 The Prairie-Dog Village.
 The Cranes Paddock.

This array, which includes 12 buildings, represents a total initial cost to the Society of \$402,002.69.

And the Society pledged itself to expend a maximum of \$250,000.

Can this record be matched by any other organization for public education? By all precedents and usages, all these improvements should have been erected at the cost of the City of New York, and the Society's \$402,002.69 should have gone into its Endowment Fund!

But the above is not all. We have said nothing about the expenditures of the Society:

For a 24 year's supply of Mammals, Birds and Reptiles;
 For 24 years of aid to employees;
 For 24 years of zoological research and publication, and
 For 27 years of gratuitous administration and overhead charges.

But they stand for another story.

TWENTY-SEVENTH ANNUAL REPORT

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M. GEORGES CLEMENCEAU

The celebrated French statesman—familiarily known as the "Tiger of France"—once a resident of America, visited the Zoological Park during his last trip to America. The photograph was made at the Elephant House at the end of a cold, dark winter day, the rugged old patriot pausing impatiently while the exposure was made; a true index of his restless energy.

Photograph by Elwin R. Sanborn

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MABEL SATTERLEE, *Microscopist.*



WHITE-FRONTED MUSK-OXEN

Termed by the Director, "the whitest white-fronted musk-ox we ever have exhibited"
Photograph by Edwin R. Sauborn

REPORT OF THE EXECUTIVE COMMITTEE

By MADISON GRANT, *Chairman*

THE Executive Committee respectfully submit the following report to the Board of Managers for the year 1922:

The Committee regret to announce the death on January 25, 1922, of A. Barton Hepburn, a Founder and a member of the Board of Managers, Class of 1923, and a member of the Executive Committee.

The Committee also report with regret the death of Emerson McMillin, a Founder in Perpetuity and, until a short time before his death, a member of the Board of Managers, Class of 1925.

John E. Berwind was elected to the Board of Managers, Class of 1923, to fill the vacancy caused by the death of A. Barton Hepburn.

Henry Fairfield Osborn, Jr., was elected to the Board of Managers, Class of 1925, to fill the vacancy caused by the resignation of Emerson McMillin.

Irving K. Taylor was elected to the Board of Managers, Class of 1926, to fill the vacancy caused by the resignation of William Woodward.

To the great regret of the Executive Committee, Mr. Percy R. Pyne, resigned last January as Treasurer after having served in that capacity for twenty years. Cornelius R. Agnew, Vice-President of the Farmers' Loan and Trust Company, was elected to fill his place.

Frederic C. Walcott was elected to fill the vacancy in the Executive Committee, caused by the death of A. Barton Hepburn.

On account of the ever increasing duties of the Director at the Park, the office of Assistant to the Director was created by

the Executive Committee and on November 9, 1922, Dr. W. Reid Blair was appointed to fill that position, still retaining his duties as Veterinarian of the Park. Dr. Blair is exceptionally well fitted for this position by education and long experience at the Zoological Park. He served two years in France with the rank of Major on the staff of General Pershing.

ENDOWMENT

The time has now arrived in the history of the Society when an additional Endowment of not less than \$1,000,000 has become absolutely necessary. In view of greatly increased costs, not only is it impossible to expand the work of the Society, but even the maintenance of the Park and Aquarium, and the general activities of the Society on their present scale are becoming increasingly difficult to finance. The Society is without funds for many important items. So pressing has the necessity for funds become that a special committee has been appointed to take charge of a campaign to raise a million dollars. This committee is as follows:

OGDEN MILLS, <i>Chairman</i>	WM. REDMOND CROSS, <i>Secretary</i>
IRVING K. TAYLOR	CORNELIUS R. AGNEW, <i>Ex-officio</i>
MORTIMER L. SCHIFF	HENRY FAIRFIELD OSBORN, JR.

The members of the Society are earnestly requested by the Executive Committee to aid this Committee in securing at least a million dollars by direct gift or by bequest.

MEMBERSHIP

During the year, 27 new Life Members and 315 new Annual Members were secured. The total enrolled membership of the Society, as of December 31, 1922, is as follows:

Honorary Members	6
Benefactors	4
Founders in Perpetuity.....	14
Founders	10
Associate Founders	13
Patrons	35

Life Members	355
Annual Members	2,206
	<hr/>
Total	2,643
Ladies' Auxiliary	36
Fellows	36
Corresponding Members	9
Sustaining Members	11

This shows a net gain of 89 members over 1921, after deducting deaths and resignations.

ATTENDANCE

The attendance both at the Park and Aquarium during the year 1922 shows a decrease from last year, largely due to five rainy Sundays in May, June and July. The number of visitors at the two institutions for 1922, as compared with 1921, is as follows:

	Park	Aquarium
1921	2,562,138	2,376,840
1922	2,410,908	2,121,896
	<hr/>	<hr/>
Decrease	151,230	254,944

Total for 1922, 4,532,804.

COLLECTIONS AT THE PARK

A census of the animals in the Zoological Park, taken January 1, 1923, is as follows:

	January 1, 1923		January 1, 1922	
	<i>Species</i>	<i>Specimens</i>	<i>Species</i>	<i>Specimens</i>
Mammals	182	539	185	623
Birds	779	2,464	750	2,174
Reptiles	97	559	73	465
	<hr/>	<hr/>	<hr/>	<hr/>
	1,058	3,562	1,008	3,262

The important acquisitions during the year were:

Mammals: 1 pygmy elephant, 1 platypus, 5 musk-oxen, 4 cape fur seals, 1 Baird's tapir, 2 Siberian tigers, 1 pair of Afri-

can lions, 1 lioness, 1 Hartmann zebra, 1 Burchell zebra, 1 black jaguar, 3 Anticosti Island black bears, 2 Alaskan grizzly bear cubs, 1 Andean black bear, 1 Bengal tiger, 1 mandrill, 1 great anteater, 1 South American tapir, 2 Red River hogs.

Birds: 1 Harpy eagle, 1 Maguari stork, 1 lesser bird of paradise, 2 Malay crestless fireback pheasants, 1 tawny eagle, 2 black-footed penguins, 2 hooded vultures, 1 blue-eyed cockatoo, 2 Bourke's parakeets. 3 nocturnal curassows, 1 black lory.

Reptiles: 1 black cobra, 2 pythons, 1 hooded cobra, 1 South American boa constrictor, a collection of desert reptiles.

A detailed description of some of the more important acquisitions, such as the platypus and pygmy elephant, will be found in the Director's Report and in the Society's Bulletin.

The health of the animals continues good and the only important losses during 1922 were as follows:

Mammals: 1 platypus, 1 Rocky Mountain goat, 1 great anteater, 1 Baird's tapir, 2 musk-oxen, 1 Alaskan brown bear, 1 South American tapir, 1 Himalayan bear, 1 camel, 1 black bear.

Birds: 1 king vulture, 1 blue grass parakeet, 1 New Guinea giant kingfisher, 1 condor, 1 great-billed raven, 1 Princess of Wales parakeet.

Reptiles: 1 sea snake, 1 black cobra, 1 orinoco crocodile.

COLLECTIONS AT THE AQUARIUM

	January 1, 1923		January 1, 1922	
	<i>Species</i>	<i>Specimens</i>	<i>Species</i>	<i>Specimens</i>
Fishes	133	3,726	115	3,011
Aquatic Reptiles	16	138	14	114
Amphibians	11	233	6	39
Invertebrates	22	1,135	14	1,020
Mammals	2	4	2	4
<hr/>				
Total	184	5,236	151	4,188

It is noteworthy in this connection that the collection is in an exceptionally good state of health.

The well-boat *Seahorse* was of the greatest service to the Aquarium during the summer in keeping up the collections and

in supplying food. The boat made nineteen trips and collected as follows:

55 Species of Fishes	2,886 Specimens
10 Species of Invertebrates	662 Specimens
4 Species of Reptiles and Amphibians	26 Specimens

ALTERATIONS AT THE AQUARIUM

During the year, alterations, including the excavation and waterproofing of the basement and installation therein of the electric machinery, have been completed at a cost of \$69,788.05, paid from the Sage Endowment Account. An additional amount of \$14,200 is estimated to be necessary for the removal of the obsolete machinery and the construction of new tanks. Mr. Henry D. Whiton's gift of \$10,000 will be used for this purpose.

On November 3, 1922, final action was taken by the Board of Estimate and Apportionment in the issue of \$25,000 Special Revenue Bonds for repairs to the roof. On December 8, 1922, a contract for \$16,860 was awarded through the Park Department to Sobel & Kraus, contractors, and work has now been started. The Committee hope that during 1923 the alterations to the Aquarium will be completed, including the new third story and roof repairs.

MAINTENANCE.

Park.—The sum of \$266,937.44 was provided by the City for the maintenance of the Park for the year 1922. As stated in the last Annual Report, this was a decrease of \$15,462.56 from the preceding year and entirely inadequate for the needs of the Park. An estimated deficit of \$6,000 was expected but by careful economy was reduced to approximately \$4,000, which amount must be paid by the Society during 1923.

For 1923 the City has provided only \$264,515, being a decrease of \$2,422.44 from the amount allowed last year. This will again make it impossible to run the Park during the coming year without a deficit, now estimated at \$7,705.

Aquarium.—The City provided \$63,262.98 for the maintenance of the Aquarium in 1922. For 1923, \$59,226 has been provided, being a decrease of \$4,036.98. However, the Depart-



HARTMANN MOUNTAIN ZEBRA

A recent addition to the Society's great collection of Wild Equines
Photograph by Elwin R. Sanborn

ment of Water Supply, Gas and Electricity has taken over the item of all electricity for the Aquarium, so that it will probably be possible to avoid a deficit here.

FINANCES.

Sage Bequest.—In February, 1922, cash and securities in the amount of \$146,808.04 were received from the Sage Estate. This makes a total of \$636,318.87 received. A further payment may be made in 1923.

On December 31, 1922, the balances to the credit of the several Funds of the Society were as follows:

Endowment Fund

General Endowment Account (uninvested principal)	\$3,707.92
Sage Endowment Account (uninvested principal)	6,481.05
George F. Baker Endowment Account (uninvested principal)	87.75

Special Endowment Fund

Cadwalader Animal Endowment Account (income)	2,296.58
Stokes Bird Endowment Account (income)	758.54

Special Fund

Animal Account.....	16,956.83
Art Gallery Account.....	2,388.69
Improvement and Repair Account.....	1,461.96

<i>General Income Fund</i>	12,184.79
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Scientific and Research Fund

Publication Account	314.30
Tropical Research Account.....	5.85
Library Account	138.74
Heads and Horns Collection Account.....	981.36

\$47,764.36

Maintenance Fund

Zoological Park Account, (<i>Overdrawn</i> *)	\$17,375.95	
Aquarium Account (<i>Overdrawn</i> *)	4,749.11	22,125.06
		<hr/>
		\$25,639.30
<i>Pension Fund Income Account</i>		3,366.92
<i>Pheasant Monograph Account</i>		7,368.86

GENERAL ENDOWMENT FUND

The General Endowment Fund, as of December 31, 1922, amounts to \$481,153.07. Receipts during the year were as follows:

Estate of E. C. Converse.....	\$25,000
Estate of C. E. Rhinelanders.....	3,000
Subscription of Dr. John F. Erdmann.....	500
Life Memberships	5,030
	<hr/>
Total	\$33,530

SAGE ENDOWMENT ACCOUNT

The Sage Endowment Account, as of December 31, 1922, amounts to \$556,153.25, after transfers of \$69,788.05 and \$37,226.32, respectively, had been made for Aquarium alterations and the Heads and Horns Museum.

GEORGE F. BAKER ENDOWMENT ACCOUNT

One of the most important events during the year was the donation by George F. Baker, Esq., a member of the Board of Managers, of \$100,000 United States of America Victory Loan 3¾% Notes. Under the terms of Mr. Baker's gift, the income from these bonds is to be used for the corporate purposes of the Society. The Executive Committee decided to create a special fund, known as the George F. Baker Endowment Fund, in commemoration of this notable gift. The additional interest will be applied for the general purposes of the Society.

*These Accounts are always overdrawn as the charges against them are paid by the Society and then collected from the City.

CADWALADER ANIMAL ENDOWMENT ACCOUNT

The platypus was purchased from this account. The income has been allowed to accumulate in order to procure some large and expensive animal and shows a balance of \$2,296.58, as of December 31, 1922.

STOKES BIRD ENDOWMENT ACCOUNT

This account shows a balance of \$758.54. The fund is limited to the protection of birds.

ANIMAL ACCOUNT

The amount to the credit of the Animal Account at the end of the year was \$16,956.83. The price of animals has increased in recent years to such an extent that even with this balance the Society will have barely adequate sums to purchase rare specimens.

ART GALLERY ACCOUNT

During the year a painting of "Whooping Cranes On Their Nesting Grounds" in Saskatchewan by Louis Agassiz Fuertes was added to the Gallery of Wild Life Paintings in the Administration Building. This Gallery also received as a gift from the artist a portrait of a lion by Carl Rungius and an oil painting entitled "A Forest Tragedy" by R. M. Shurtleff from Mrs. Shurtleff. The removal of the National Collection of Heads and Horns from the upper floor of this building left it available for its original purpose as a gallery for paintings. There have been installed in this gallery paintings of the rarer forms of American big game and birds, shown in their natural surroundings. There are at present 12 large mammal paintings, some of them showing animals life size, 8 small mammal, 3 large bird and 2 small bird paintings.

It is the desire of the Committee to make this unique collection complete so as to include all the large North American mammals and many of the smaller mammals and such of the birds as are threatened with extermination. To accomplish this we shall be obliged to provide about 10 large mammal paintings and 25 small ones with a similar number of bird pictures.

In December, Mr. Lispenard Stewart made a gift of \$2,000 to the Art Gallery Account, with which a painting of the Grizzly Bear will probably be purchased.

Col. Anthony R. Kuser made a very handsome donation to the Society of 25 of the original paintings executed for the Pheasant Monograph. He also presented some of the rarer skins of the pheasants for exhibition.

IMPROVEMENT AND REPAIR ACCOUNT

The amount to the credit of the Improvement and Repair Account at the end of the year was \$1,461.96. Gate Receipts have been devoted to the upkeep of the Park structures and much necessary repair work has been accomplished during the year, as set forth more particularly in the report of the Chief Constructor. Repairs to the extent of \$30,000 are imperatively needed at the Park during 1923. The Gate Receipts will supply about half this amount and special provision must be made for the balance.

GENERAL INCOME FUND

The General Income Fund shows a balance of over \$12,000. This Fund has to meet the overdrafts of all the other funds of the Society and is consequently the point where our finances are weakest. The only way to increase it is by a larger membership or a larger General Endowment Fund.

PUBLICATION ACCOUNT

This account is, as usual, in a state of collapse because its only source of income is from the General Income Fund and we are constantly obliged to forego opportunities to publish valuable material owing to the straitened condition of our finances.

During the year the following publications have appeared: The January, March, May, July, September and November numbers of the Bulletin; Zoologica, Volume II, Nos. 12 to 16, inclusive.

TROPICAL RESEARCH STATION

The staff of the Tropical Research Station returned to New York in November after ten months of work at Kartabo,

British Guiana. The permanent members this year were William Beebe, Director, John Tee-Van, Gilbert Broking, Miss Isabel Cooper and Miss Ruth Rose. This season was the most successful in the six years' existence of the Station and thousands of specimens, many living wild animals, nearly 300 colored paintings and a great number of photographs were secured. The details of this work are set forth in the report of the Director of the Station.

The subscribers to the Tropical Research Station for the past year were as follows:

Edward S. Harkness	\$1,000.00
A. Barton Hepburn	1,000.00
George J. Gould	1,000.00
Coleman du Pont	1,000.00
Mortimer L. Schiff	1,000.00
George D. Pratt	1,000.00
Anthony R. Kuser	1,000.00
George F. Baker	1,000.00
Frederic C. Walcott	1,000.00
Harrison Williams	800.00
Cleveland H. Dodge	500.00
Lewis R. Morris	500.00
	<hr/>
	\$10,800.00

The Executive Committee must raise \$10,000 for the maintenance of this Station during the year 1923.

PHEASANT MONOGRAPH

Volume III of the Pheasant Monograph was published in February, 1922, and Volume IV in the early part of January, 1923. The edition is limited to 600 copies and the total sales to January 1, 1923, amount to 418 copies.

HEADS AND HORNS MUSEUM

A notable occasion in May, 1922, was the dedication and public opening of the new Heads and Horns Museum, containing the National Collection of Heads and Horns.



THE NEW HEADS AND HORNS MUSEUM

An interior view of a portion of the north or Geographic Hall of this interesting building which was opened to the public on May 25, 1922

Photograph by Elwin R. Sanborn

This building was constructed by the New York Zoological Society at a total cost of \$145,646.95. \$100,000 were provided by the following donors:

Mrs. Russel Sage	\$10,000 00
Mrs. Frederick F. Thompson	10,000.00
Estate of John D. Archbold.....	10,000.00
Jacob H. Schiff	10,000.00
George F. Baker	10,000.00
Mrs. Andrew Carnegie	10,000.00
Andrew Carnegie	10,000.00
Edmund C. Converse	10,000.00
Samuel Thorne (In Memoriam) ..	10,000.00
George D. Pratt	10,000.00
	<hr/>
	\$100,000.00

The balance was provided from the Sage Endowment Fund.

The Society has been engaged for sixteen years in gathering the National Collection of Heads and Horns, starting with the heads and horns presented in 1906 by Dr. Hornaday. It now contains approximately 800 specimens, arranged in two series—one, zoological, and the other, geographical. The collection contains eleven records, fourteen seconds and other specimens of extreme rarity and value, many of which can never be replaced. The total collection is valued at \$450,000. Very recently a deposit of several fine mounted heads was received from the estate of Walter Winans of England. The various donors of specimens were as follows:

Emerson McMillin	Edward J. House
Clarence H. Mackay	Wilson Potter
Charles T. Barney	Edgar Beecher Bronson, Jr.
Irving K. Taylor	Archibald Harrison
H. Casimir de Rham	Francis Burton Harrison
Dr. Wm. T. Hornaday	Dr. John C. Phillips
Madison Grant	Frank Hart
George J. Gould	John R. Bradley
Lispenard Stewart	John W. Norton
F. Augustus Schermerhorn	Frederick G. Bourne
Percy C. Madeira	Charles F. Dieterich
George L. Harrison, Jr.	Wm. D. Sloane

In addition, the Executive Committee raised a fund of over \$10,000 for the purchase of specimens, subscriptions to which are as follows:

Mortimer L. Schiff	\$3,000.00
Transfer from Wild Life Protection Fund	1,103.93
Lispenard Stewart	1,000.00
Irving K. Taylor	1,000.00
In Memoriam, from Mrs. Ethel R. Thayer	1,000.00
Percy A. Rockefeller	1,000.00
George F. Baker	1,000.00
Miss Mary Taber	500.00
Beekman Winthrop	250.00
William Woodward	250.00
Wm. Redmond Cross	250.00
Frank Hart	101.00
John J. Paul	100.00
A Friend	100.00
Miss Emily Buch	25.00
	<hr/>
	\$10,679.93

The City failed to provide in the 1923 Budget for an attendant for this building, so that the Society has not only presented the building to the City and provided a collection, but during 1922 and 1923 has been called upon to provide the necessary funds for attendant's salary.

Under the conditions of the original lease of the Zoological Park by the City, the Society was obligated to expend the sum of \$250,000 on permanent improvements within the Park. This was done and various additional amounts representing permanent improvements have been added from time to time until the total investment in buildings and permanent improvements in the New York Zoological Park by the Zoological Society amounts to a grand total of \$402,002.69. In addition \$70,000 already has been spent on the Aquarium. Under ordinary circumstances this principal sum would have been held as an endowment fund and only the income expended on the Park and Aquarium.

CARNEGIE PENSION ENDOWMENT ACCOUNT

The Society has a Pension Fund of \$100,000, donated by Andrew Carnegie, the interest from which amounts to \$4,335 annually. It is supplemented by an annual sum of \$3,665 from the Society's General Income Fund, a heavy drain on the resources of the Society. This total of \$8,000, together with the contributions of the employees, is inadequate. There will be, in the immediate future, many age retirements of men who have faithfully served the Society since its organization and it is the moral obligation of the Society to see that their remaining years are not passed in abject poverty. The provisions of the present Pension Fund are utterly insufficient. For example, a keeper whose salary is at the rate of \$130 a month only receives on retirement \$32—a mere pittance in these times of high costs. Application has been made to the Carnegie Corporation for additional appropriations but without success, and the Executive Committee is deeply concerned with the problem of raising more money for this purpose.

MEDICAL DEPARTMENT

The most valuable material from our collections at the Park and Aquarium is fully utilized by Dr. Huntington, the prosector of the Society. Autopsies, whenever necessary, are made at the Park to determine causes of death. As a result of this precaution, many preventable diseases have been eliminated. The Medical Department at the Park already possesses a large collection of pathological and anatomical data of great value but more funds should be made available for the study of this material and for publication of results.

RECEPTIONS

Annual Dinner: The Fourteenth Annual Dinner to the Board of Managers was held through the courtesy of Archer M. Huntington, Esq., at 1083 Fifth Avenue, on Tuesday, December 26, 1922.

Spring Meeting: The Spring Meeting of the Board of Managers was held in the Administration Building on May 25, 1922. The Meeting was preceded by a luncheon and followed

by the opening of the Heads and Horns Museum and a Garden Party at which the Ladies' Auxiliary acted as a Reception Committee.

MEMORANDUM OF MEETINGS

1923-1924.

Annual Meeting of the Society:

JANUARY 8, 1924, 8:30 P. M.

Hotel Waldorf-Astoria.

Meetings, Board of Managers.

January 15, 1924, 3:00 P. M.

May 17, 1923, 2:30 P. M.

Annual Meeting

Park Meeting.

Down Town Association.

Preceded by Luncheon at 1:30 P. M.

Annual Dinner.

December 26, 1923.

Executive Committee Meetings.

January 11,

May 10,

February 8,

June 14,

March 8,

October 11,

April 12,

November 8,

December 13.

Members' Day and Ladies' Day at the Zoological Park:

May 17, 1923, 3:00 P. M.

In Memoriam

A. BARTON HEPBURN

On January 25, 1922, A. Barton Hepburn died, having been a Founder and a member of the Board of Managers since 1917. Shortly before his death he became a member of the Executive Committee.

Mr. Hepburn understood from personal experience the frontier conditions which passed away a half century ago and appreciated the importance of saving for future generations some portion of America's heritage in forest and wild life.

In the midst of a busy life he always found time to devote to the support of scientific research, especially field zoology. He served on many boards which were devoted to the welfare of his country, and his assistance and advice in the management of the Zoological Society were deeply appreciated by his colleagues.

In the death of Mr. Hepburn the Society has lost one of the last survivors of the group of men whose sympathy for it was based on their early personal knowledge of the wilderness conditions now vanished.

In Memoriam

EMERSON McMILLIN

On May 31, 1922, the Zoological Society lost by death one of its staunchest friends. Emerson McMillin, a Founder in Perpetuity, had been a member of the Board of Managers since 1909. He was among the very first to recognize the importance of establishing a Collection of Heads and Horns to include the antlers and horns—if possible, the largest on record—of the great game animals of the world. He appreciated the fact that the Age of Mammals is drawing to its close and that in a few decades the larger animals would be swept from the surface of the globe. Realizing this, Mr. McMillin purchased and presented to the Society the unique Reed Collection of Alaskan big game, a valuable and varied assemblage of the large northern animals. This splendid gift to the National Collection of Heads and Horns established the latter on its present footing once and for all. Subsequent events more than justified Mr. McMillin's far-sighted policy, as it would be impossible today to duplicate the specimens donated by him.

Mr. McMillin also took great interest in the closely related plan of the Zoological Society to establish, while there was still time, a gallery of paintings of North American mammals, depicted not only with absolute zoological accuracy but in their natural habitat.

Mr. McMillin had a keen sympathy with the hardships endured by the faithful employees of the Zoological Park during the stress of wartime prices and was most generous in his contributions for their relief. He studied each problem brought before him with the knowledge gained of long experience and, once satisfied with the merits of a case, supported it enthusiastically. He belonged to a generation trained in the Civil War and his loss to society and to the community at large is irreparable.

AUDITING

The Auditors, Messrs. Marwick, Mitchell & Company, have audited and found correct the accounts of the Society.

The Auditors' report, as well as that of the Auditing Committee, follows the report of the Treasurer.

ACKNOWLEDGMENTS

The Directors of the Park and Aquarium and their respective staffs have worked faithfully to maintain their institutions at a high standard of efficiency. The Committee desire to acknowledge with appreciation their zeal and energy.

Respectfully submitted,

MADISON GRANT, *Chairman.*

WM. WHITE NILES,

WM. PIERSON HAMILTON,

FRANK K. STURGIS,

WATSON B. DICKERMAN,

ANTHONY R. KUSER,

WM. REDMOND CROSS,

FREDERIC C. WALCOTT,

HENRY FAIRFIELD OSBORN, *Ex-Officio,*

CORNELIUS R. AGNEW, *Ex-Officio.*



MUTE SWAN AND CYGNETS

The Society has been fortunate in the swan collections of which this specimen is an interesting member
Photograph by Elwin R. Sanborn

REPORT OF THE LADIES' AUXILIARY

THE members of the Ladies' Auxiliary of the Zoological Society assembled for their first meeting of the season of 1921-1922 at the office of Mr. Thomas Hastings, 52 Vanderbilt Avenue, on Thursday, December 8, 1921. Mrs. Osborn presided and Mrs. Walter Maynard, as secretary, took the minutes. The Chairman of the Bronx Park Excursions, Miss Pauline Robinson, reported that during the hot summer months fifteen hundred and twenty children were taken on outings to the Park. These daily excursions, "going to the country" as so many of the children call them, usually the only country they see all summer, are financed by the members of the Ladies' Auxiliary of the New York Zoological Society. Hundreds of children enjoy these outings in the large open areas which the Park affords, and romp and play to their hearts' content, delighting in the wonderful collections of animals. Two play leaders, supplied by the Parks and Playground Association of the City of New York, accompany each group, which numbers about forty and is composed of children from all parts of the city—Henry Street, Houston Street, Spring Street, Riis House Playground, West 38th Street Playground, East 74th Street and the College Settlement. Lunches and transportation are provided, and the cost of each excursion is about ten dollars.

Seventy-eight new members have been added to the Junior Auxiliary during the last year, and its aim is to have at least five hundred children on its roll. On January 17th, at the residence of the Chairman, Mrs. Michalis, 455 Madison Avenue, Mr. Sanborn showed some remarkable pictures during his lecture entitled "The Odd Animals of the Zoological Park." The children, even to the youngest ones, were extremely enthusiastic and the event was a great success. In December, the Junior Auxiliary gave to Dr. Hornaday five hundred dollars for the purchase of a giant tapir. Each year the Auxiliary presents an animal to the Park, which is known as the "Junior Auxiliary

Animal." In this way Dr. Hornaday has been able to create and stimulate in the children a fine interest in the Zoological Park and its animals.

At the annual midwinter lecture at the residence of Mrs. John Henry Hammond, 7 East 91st Street, Mr. Beebe gave a most interesting presentation of his expedition to Mongolia, China and the high Himalaya Mountains to observe the habits of pheasants with a view to writing the monumental work "Monograph of the Pheasants," which was made possible through the generosity of Colonel Anthony R. Kuser.

The Ladies' Auxiliary cooperated with the New York City Federation of Women's Clubs in working out the elaborate program of meetings of "Conservation Week" from April 2nd to 8th. This series included meetings on the conservation of forests and streams, national parks and all our natural resources. The meetings, which were of great interest and value, were held at the Hotel Astor.

The Annual Garden Party of the Ladies' Auxiliary occurred on May 25th. The day was clear and warm and the large number of people present enjoyed the lovely music and the exquisite setting of the Zoological Park with its woods and flowers and splendid display of animals. One of the great attractions of this delightful occasion was the formal opening to the public of the Heads and Horns Museum which contains the rarest collection of heads and horns in the world.

Respectfully submitted,

(MRS.) HENRY FAIRFIELD OSBORN,
Chairman.

(MRS.) WALTER E. MAYNARD,
Secretary.

(MRS.) CLARENCE G. MICHALIS,
Chairman, Junior Auxiliary.



PYGMY AFRICAN ELEPHANT

Brought to the Zoological Park in the mid-winter of 1922-23, this little animal with a disposition and temperament of a most satisfactory nature, has proved an interesting exhibit for the multitudes of visitors to the Elephant House

Photograph by Elwin R. Sanborn

REPORT OF THE DIRECTOR OF THE ZOOLOGICAL PARK

By WILLIAM T. HORNADAY

ZOOLOGICALLY the year 1922 made a record of progress that is satisfactory. Financially the year closed with certain matters at the Park involved in perplexity and instability.

If we are to consider our events in the order of their importance to the public, we must accord first place to the

OPENING OF THE MUSEUM OF HEADS AND HORNS

As the records of the Society will show, the forming of the National Collection of Heads and Horns began sixteen years ago. During that interval the systematic increase of the collection, along prescribed lines, was pursued with unflagging diligence. At last the time arrived where the approaching completion of the collection created a desire to make the collection accessible continuously to all visitors. Ten members of the Society provided an ideal and unique museum building, at a total cost of \$146,000. The structure was finished late in March and by a great effort on the part of the Park force the collection was assembled, renovated, arranged and hung upon the walls of the Museum, in time for a formal opening on May 25, 1922.

This National Collection now serves two novel educational purposes. In the Zoological Hall the visitors behold a vast array of fine heads and horns representing very nearly all known species of the horned and tusked animals of the world, arranged according to their places in the System of Nature. Nowhere else, so far as we know, can such a display be found. In the Geographic Hall the continental faunas are shown separately, for Europe, Asia, Africa, and North and South America. This also is a unique exhibit.

On the opening occasion, addresses were made by President Henry Fairfield Osborn, Park Commissioner Joseph P. Hennessy, and the Director of the Park. Ever since that occasion, the Heads and Horns Museum has been open daily during the open hours for visitors at the Park. The building has been so designed that a single attendant is sufficient to maintain complete oversight of its entrance, exit and halls, but we regret to report that we were unable to obtain from the city the sum of \$1,500 with which to pay the salary of that attendant. In order to keep the Museum open to the public, the Zoological Society is providing the attendant's salary.

Judging from the expressions of approval of the plan and scope of the Heads and Horns Collection, this exhibit is well serving the serious educational purposes which caused it to be formed.

ATTENDANCE

The attendance of visitors at the Zoological Park (2,410,906) is thoroughly satisfactory. There was a slight falling-off from the figures of 1921, because of five rainy Sundays in May and June, which cut off a little over 150,000. The influx of school classes was greater than ever before. The monthly attendance figures are as follows:

	1922	1921
January	96,565	120,305
February	94,885	83,317
March	163,043	213,394
April	280,174	242,168
May	342,847	433,027
June	207,585	306,332
July	322,850	316,633
August	269,121	271,370
September	232,341	237,936
October	180,230	192,767
November	136,982	81,758
December	84,283	63,131
	<hr/>	<hr/>
	2,410,906	2,562,138

THE ANIMAL COLLECTIONS

The year 1922 closed with the mammal, bird and reptile collections at the highest point in zoological value that any of them ever have attained. While some years may have shown a greater number of specimens, this is due to the fact that we are showing species and in some cases not so many specimens of one kind. In addition to this, we have accumulated an unusual stock of rare and particularly interesting species.

The bear collection and the Lion House collection have been completely overhauled. A number of aged and decrepit animals to which we were attached but which were not creditable to the Park, were resolutely disposed of, and their places were filled by fine young stock. Of the additions under this head we may mention three lions, two Siberian tigers, a Bengal tiger, a black jaguar and two leopards, two pairs of Alaskan bears representing two species not yet determined, and three Anticosti Island black bears. This new blood has brought the bear and large-cat collections up to their legitimate level.

The bird collections were so admirably perfected in 1921 through the persistent efforts of Curator Crandall that little remained to be done for them last year.

The reptile collection also was throughout 1921 at so high a mark that it needed little. The most notable accession of the year was a collection of desert reptiles made by Curator Ditmars himself in the Mojave Desert in August.

As will appear elsewhere, the Privilege Department and the Department of Construction and Repair each passed through a year of unusual activities—and perplexities. The lapse of time—and materials—has brought to Mr. Mitchell and Mr. Merkel many new burdens.

REPAIRS.

In the United States of America, no structures made by man are so fiercely assailed by usage, wear and tear, and the elements, as are the buildings, aviaries and outdoor enclosures of metal that are made to contain living animals on daily exhibition. In New York City, where the mean (and very mean!) annual rainfall amounts to thirty-four inches, of which thirteen inches fall in the winter months,—the rusting of all ironwork, both outdoors

and indoors, is almost beyond belief. And so, also, is the decay of wood.

For more than twenty years the structures in the Park erected to contain and shelter the animal collections have excellently done their work. Having builded well, for twenty years our annual charges for repairs have been small. Now, however, like the lions and the bears, the dens, cages and roofs of buildings are going to the bad, through hard service. There is a great rush of things to be repaired, or to be rebuilt. Fortunately the rebuilding necessary is confined to roofs, to heating apparatus and to the lighter iron structures generally.

Unfortunately, in a public institution that annually is visited by two and one-half *millions* of people, one-third of whom are from outside New York City, dilapidation is not explainable. Leaky roofs and disintegrating cage-work *can not wait!* All such things must be handled "at once." Once the deadly word gets loose and goes abroad that "the Bronx Zoo is running down," it will take twenty-five years of hard work to overtake it.

The Zoological Park was deliberately and intentionally made by the Zoological Society and the taxpayers of New York as partners in a joint enterprise for the public good. They have got to keep their child decently clothed, fed and housed, or *go out of the Zoological Park business!*

No half-way course will serve. This Park must be maintained on a decent and proper basis, without disreputable shortcomings, or be closed up. Adequate upkeep is now solely a matter of maintenance money, year by year. The administrative and constructive machinery is all here and in good running order, but it cannot purchase materials and constructive labor with anything else than money. Public appreciation is a good thing to have, but it does not pay for steel, lumber and cement.

The final statement on this subject is that we have got to have \$15,000 more for repairs, annually, than the city will give us, or the Zoological Society is in a position to provide. Already the Society is spending on the Zoological Park more than \$50,000 per year,—for which it receives no credit whatever outside the membership of the organization.

Personally, the Director of the Park sees no way by which to produce that additional \$15,000 save from the income of a new endowment of a million dollars, or more.

DEPARTMENT OF MAMMALS.

W. T. HORNADAY, Curator; R. L. DITMARS, Assistant Curator;
JOHN TOOMEY, Head Keeper.

The year 1922 will remain notable in the Park's history by reason of the arrival of many rare and important specimens. Several of these establish records of great zoological importance.

For the first time in the history of a zoological institution a living platypus was placed upon exhibition outside of Australia. This strange form—the most lowly of the mammals—which lays eggs, hatches them in a nest, then nurses the young, has long been an object of great interest to science. Our specimen, which established a record of the first duck-billed platypus ever landed alive outside Australia, was brought to New York by Mr. Ellis S. Joseph, of Sydney. It arrived July 14, and was purchased through the John L. Cadwalader Animal Fund. Owing to the peculiar food requirements of the platypus,—its diet consisting largely of worms, shrimps and grubs,—it was necessary to advertise for the latter. We employed a number of boys in collecting the grubs. Owing to the animal's prodigious appetite, the food supply was a formidable problem.

The platypus was exhibited in a most complicated enclosure, consisting of a labyrinth of retiring passageways in connection with a swimming tank, the whole under a heavy, roof-like cover. This was placed in a corral adjoining the Reptile House, to which our visitors were admitted for an hour each day, when Head Keeper Toomey removed the covering and answered innumerable queries. The arrangement was necessary owing to the animal's extremely nervous disposition. The platypus died after seven weeks of exhibition and after many thousands of visitors had passed its enclosure in long lines that often extended past the Reptile House. During those few weeks it became internationally famous. Credit for the achievement of a living platypus by the Zoological Park is due primarily to the persistent efforts of Mr. Harry Burrell, of Australia, in working out the means by which this species can be kept alive in captivity, and to Mr. Joseph for his indomitable perseverance, first in keeping specimens in Sydney and then for the Herculean task of bringing the huge shipping machine and its contents to New York.



ANTICOSTI ISLAND BLACK BEARS

Mother and two cubs that were presented to the Society by Senator Gaston Menier

Photograph by Elwin R. Sanborn

Another arrival of great importance was the African pygmy elephant, the gift of Mr. Morris Kinney of Butler, New Jersey. It was received on the 6th of December. This animal is thirty-four inches high and was captured in French West Africa. The measurement of the mother of this specimen was five feet and eleven inches in height.

For the first time in the history of American zoological collections a specimen of the giant tapir or Baird's tapir arrived at the Park. Our example of this little known animal was very young and arrived weak and emaciated. It lived but a short time. Another species new to American collections is the South African fur seal, four specimens of which arrived during the autumn and are thriving. Five white-fronted musk-ox calves that were captured for us in the Franz Joseph Fjord, east coast of Greenland early in 1922, arrived late in the year and are in splendid condition.

It is to be noted that in the imposing series of rare and interesting animals which arrived during the year, there were specimens from widely separated parts of the world.

The extreme age of several specimens in the Lion House required their painless removal, and purchases were made to fill the gaps in this building. The collection of big cats is now the most impressive we have ever exhibited. Two fine black-maned lions and a lioness, a pair of particularly long-haired Siberian tigers, a female Bengal tiger, and a large, heavy-bodied example of the rare black jaguar, were added to the collection. Among other important carnivores were three Anticosti Island black bears (the gift of Senator Gaston Menier), two Alaskan bears (gift of Mr. William N. Beach), one South American black bear, one Russian bear and two dingos or Australian wild dogs.

Two orang-utans and one chimpanzee were added to the collection in the Primate House. One of the former was the gift of Mrs. Sidney Wilmer. Other new primates are two mandrills, a saki monkey, a red howler and a chacma baboon. The Small Mammal collection received many important additions. Among these were 2 great anteaters, 2 sloths, a prehensile-tailed porcupine, a crested porcupine, 4 western yellow-haired porcupines, a capybara and 2 albino raccoons.

The collection of hoofed animals received noteworthy additions: These included a male Hartmann mountain zebra (gift of

the Junior Auxiliary of the New York Zoological Society), a male Purchell zebra, a pair of African red river hogs, a male anoa or pygmy buffalo, a South American tapir and 2 Indian blackbuck.

Acknowledgement of gifts to the collection is made under a separate portion of this report. A series of interesting mammals was received through Mr. William Beebe, Honorary Curator of Birds. These were collected at the Society's Tropical Research Station, in South America, and comprised sloths, ant-eaters, monkeys and small mammals.

Noteworthy losses during the past year mainly involved old animals, painlessly removed from exhibition. Among these were several bison, an elk, and several aged lions. Some of these specimens had lived in the Park for periods of fifteen to over twenty years. Statistics relating to them appear in another section of this report. The chimpanzee "Suzette" was a mother for the third time since being on exhibition in the Park. Owing to a lack of maternal instinct in providing nourishment for her young, and also because of savage temper, the baby chimpanzee died eight days after birth. Efforts to take it from the mother were met by furious resistance.

The following were the most important births in the Park during 1922:

1 Chimpanzee	1 Rocky Mountain Sheep
3 Axis Deer	2 Aoudad
2 Barasingha Deer	3 Himalayan Tahr
1 Sambar Deer	3 Fison
1 Hog Deer	2 Yak
4 Red Deer	1 Giraffe
4 Fallow Deer	1 Bactrian Camel
2 White-tailed Deer	3 Lions
3 Elk	2 Western Porcupine
1 Mongoose Lemur	

As has been the custom in past years, we deposited a series of carefully selected small mammals, birds, reptiles and amphibians at the Zoological Room of the Washington Irving High School, where these animals are cared for by a special attendant and regularly inspected by one of our keepers.

Our keepers' staff suffered a shocking loss during the year. Keeper Richard Spicer, a veteran in the Park service and a

very competent man in the care of the great apes and monkeys, died while on duty, from a hemorrhagic condition, on January 2nd. Keeper Spicer had been in the service of the Park for twenty years. His funeral was attended by many members of the Zoological Park force.

A census of the collections, compiled on January 1, 1923, is as follows:

	<i>Species</i>	<i>Specimens</i>
Marsupialia	16	36
Edentata	3	3
Carnivora	42	106
Pinnepedia	2	5
Rodentia	22	69
Primates	33	79
Artiodactyla (Even-toed Ungulates)....	48	217
Perissodactyla (Odd-toed Ungulates)....	13	21
Proboscidea	3	3
Total Mammals	182	539*

DEPARTMENT OF BIRDS.

LEE S. CRANDALL, Curator; WILLIAM BEEBE, Honorary Curator;
SAMUEL STACEY, Head Keeper.

While New York arrivals of live birds remain at a far lower level than in pre-war days, and dealers' shipments still are less numerous than normal, nevertheless additions to our collections during 1922 were sufficient to show a satisfactory gain in both species and specimens over our figures of last year. The number of rare and interesting birds received has been greater than for several years past, and many of the once common small species, almost entirely missing from the market since 1914, have again become nearly as abundant as ever.

On March 12, an unusually large dealer's shipment arrived from Para. Most of the larger species peculiar to the region were represented and all were in perfect condition. Among others we

*The decrease in specimens as compared with the figures of 1921 is explained by the elimination of the series of color phases of domestic types of mice and rats formerly exhibited in the Reptile House together with other small rodents under the head of The Economic Rodent-Reptile Collection. The space occupied by these cages was needed for reptile exhibits.



CASSOWARIES FROM YULE ISLAND

Yule Island is situated in the Gulf of Papua close to the Island of New Guinea
Photograph by Elwin R. Sanborn

secured two guira cuckoos (*Guira guira*), the first we have had in many years; an uncommonly large and fine Harpy eagle (*Harpia harpyja*); a maguari stork (*Euxenura maguari*), and an Amazonian piping guan (*Pipile cunjubi*), the first representative of this fine genus we have had.

A very large consignment of African birds and mammals reached New York in May. The most important of our acquisitions from this lot were two Wahlberg's eagles (*Aquila wahlbergi*), an African hawk-eagle (*Eutolmatus spilogaster*) and a tawny eagle (*Aquila rapax*), all new to our collection.

Mr. Ellis S. Joseph arrived in July, with an Australian collection quite up to his usual high standard. We are always certain of securing unusual species from Mr. Joseph and on this occasion the most notable were a blue-eyed cockatoo (*Kakatoë ophthalmica*), from New Britain; two Australian rajah sheldrakes (*Radjah radjah rufitergum*); two Bourke's parrakeets (*Neopsophotus bourkii*); a fawn-breasted bower-bird (*Chlamydera cerviniventris*) and a Keraudren's horned manucode (*Phonygamus keraudrenii*).

The passage of the new Tariff Act, carrying a clause imposing a duty of fifty cents each on all birds of value less than \$5.00 and 20 per cent. when the value is more than \$5.00, undoubtedly will have an adverse effect on importations, and already has caused a considerable increase in prices. About October 1, a shipment of 274 zebra finches, from Australia, reached New York. The market had not yet adjusted itself to the new conditions and the wholesale price on these birds was about seventy-five cents per pair. As this was less than the duty demanded, it was obviously cheaper to give the birds away, take them back to Australia or liberate them. The owner chose the latter course as the easiest and the unfortunate little creatures would have been loosed to perish miserably in an unfriendly climate, had we not learned of the matter in time to purchase the birds and exercise our privilege of clearing them duty free under an oath on Free Entry. A cage decidedly full of zebra finches is now numbered among our exhibits.

No new installations were provided during the year, but a second series of individual parrot cages is in contemplation, which will greatly relieve the congestion in our present quarters for these fine birds.

SPECIES OF BIRDS NEW TO THE COLLECTION

Received during 1922.

- Banded Tinamou—*Crypturus noctivagus* (Wied.).
Gray Tinamou—*Crypturus cinereus* (Gmel.).
Tataupa Tinamou—*Crypturellus tataupa tataupa* (Temm.).
Small-Billed Tinamou—*Crypturellus parvirostris* (Wagl.).
Amazonian Piping Guan—*Pipile cufubi* (Pelz.).
Nocturnal Curassow—*Nothocrax urumutum* (Spix.).
Malay Crestless Fireback Pheasant—*Acomus erythrophthalmus* (Raffl.).
Sonnini Crested Quail—*Eupsychortyx sonnini sonninii* (Temm.).
Orange-Naped Fruit Pigeon—*Carpophaga paulina* (Bonap.).
Northern Nutmeg Pigeon—*Myristicivora bicolor bicolor* (Scop.).
Orange-Breasted Fruit Pigeon—*Osmotreron bisincta* (Jerd.).
Indian Rock Dove—*Columba livia intermedia* (Strickl.).
Fiji Pectoral Rail—*Eulabeornis philippensis sethsmithi* (Math.).
Emperor Goose—*Philacte canagica* (Sevas.).
Australian Rajah Sheldrake—*Radjah radjah rufitergum* (Hart.).
Wahlberg's Eagle—*Aquila wahlbergi* (Sundev.).
Tawny Eagle—*Aquila rapax* (Temm.).
African Hawk-Eagle—*Eutolmætus spilogaster* (Bonap.).
Rufous-Collared Goshawk—*Astur rubritorques* (Peale.).
Three-colored Lory—*Lorius lory* (Linn.).
Black Lory—*Chalcopsittacus ater* (Scop.).
Ducorp's Cockatoo—*Ducorpsi ducorpsi* (Jacq. & Puch.).
Blue eyed Cockatoo—*Kakatoë ophthalmica* (Sel.).
Mitred Conure—*Aratinga mitratus* (Tsch.).
Bourke Parrakeet—*Neopsephotus bourkii* (Gould).
Saffron Aracari Toucan—*Andigena bailloni* (Vieill.).
Indian Coucal—*Centropus sinensis* (Steph.).
Schalow's Touraco—*Turacus schalowi* (Reich.).
Common Babbler—*Argya caudata* (Drap.).
Large Gray Babbler—*A. malcolmi* (Sykes).
Striated Babbler—*A. earlei* (Blyth).
Gray-headed Thrush—*Turdus castanea* (Gould).
White-collared Blackbird—*T. albocincta* (Royle).
European Horned Lark—*Otocoris alpestris flava* (Gmel.).
Golden-breasted Grosbeak—*Pheucticus aureoventris* (D'Orb. & Lafr.).
Plumbeous Seedeater—*Sporophila plumbea* (Wied.).
Crested Bunting—*Melophus melanicterus* (Gmel.).

Black-capped Calliste—*Tangara atricapilla* (Lafr.).
 Blue-shouldered Blue Tanager—*Thraupis cyanoptera* (Vieill.).
 Purple-backed Silver-beak Tanager—*Ramphocelus dorsalis*
 (Sc.).
 New Guinea Black-headed Mannikin — *Lonchura grandis*
 (Sharpe).
 Chilean Blackbird—*Curæus aterrimus* (Kittl.).
 Keraudren's Horned Manucode—*Phonygammus k. keraudrenii*
 (Less. & Gar.).
 Fawn-breasted Bower-bird—*Chlamydera cerviniventris* (Gould).

CENSUS OF BIRDS LIVING IN THE NEW YORK ZOOLOGICAL PARK.

January 1, 1923.

Species Specimens

Rheiformes,	Rheas	1	2
Struthioniformes,	Ostriches	2	4
Casuariiformes,	Cassowaries and Emus....	2	6
Tinamiformes,	Tinamous	6	9
Galliformes,	Quail, Pheasants, etc.....	66	177
Turniciformes,	Hemipodes	3	8
Pteroclitidiformes,	Sand Grouse	1	4
Columbiformes,	Pigeons and Doves.....	58	195
Ralliformes,	Rails and Gallinules.....	17	41
Lariformes,	Gulls and Terns.....	14	57
Charadriiformes.	Plovers and Sandpipers..	8	21
Gruiformes,	Cranes, Seriemas, etc.....	14	28
Ardeiformes,	[bises, Storks and Herons	31	54
Palamedeiformes,	Screamers	2	5
Phoenicopteriformes,	Flamingoes	1	1
Anseriformes,	Swans, Geese and Ducks	62	353
Pelecaniformes,	Cormorants, Pelicans, etc	9	19
Cathartidiformes,	New World Vulturcs.....	5	7
Accipitriformes,	Old World Vultures; Hawks and Eagles.....	26	36
Strigiformes,	Owls	12	26
Psittaciformes,	Parrots, etc.....	81	165
Coraciiformes,	Kingfishers, Hornbills, etc.	8	11
Cuculiformes,	Cuckoos and Touracos....	5	8



CAPE FUR SEAL

One of four specimens acquired by the Society in 1922. These lively little animals have been quartered in the Crocodiles' Summer Pool where they passed the winter without serious effects

Photograph by Elwin R. Sanborn

Species Specimens

Scansoriformes.	Barbets and Toucans.....	13	19
Piciformes.	Woodpeckers	2	3
Passeriformes.	Perching Birds.....	330	1,205
		<hr/>	<hr/>
		779	2,464

Summary: Orders, 26; Species, 779; Specimens, 2,464.

DEPARTMENT OF REPTILES.

RAYMOND L. DITMARS, Curator; JOHN TOOMEY, Head Keeper.

Many of our visitors have declared that the reptile collection during the past year was the finest since the opening of the Park, more than twenty-three years ago. Reptiles have arrived from all parts of the world where interesting forms are to be found. The collection of great constricting snakes is impressive through the exhibition of three pythons, each over twenty feet long, a number of smaller pythons and a series of more than a dozen South American boas, representing several very showy species. The collection of venomous serpents is probably the most complete that has ever been brought together. We exhibited six species of the deadly cobras during the year, these being the Philippine cobra, the Indian spectacled cobra, the yellow, ring-neck and spitting cobras of Africa, and the wonderful thirteen-foot king cobra, which continues to thrive. Seven species of rattlesnakes formed an interesting series of American venomous reptiles.

The most spectacular exhibits during the year were an albino fox snake from Texas and an albino rattlesnake from the Berkshires. The latter specimen is the second white rattlesnake to be placed on exhibition in the Park. It was the gift of Edward Cole, a pupil of the Berkshire School at Sheffield, Massachusetts. This second albino specimen was captured on the same ledge as the first recorded example.

A livid green tree snake from Java about three feet long, attracted great interest in the Reptile House. No specimen of such remarkable coloring has ever been on exhibition in the Park.

For the purpose of enabling visitors to study at close range small serpents of brilliant colors and peculiar markings we have developed a series of cages of special design, with interiors of

white enamel. In this very conspicuous series we have placed the mangrove snake—an Indian species—blue-black, with widely separated rings like golden bracelets, the gorgeous coral king snake of our western states, the blue racer, corn snake, chicken snake, red garter snake, silver boa and other American species.

Among noteworthy additions for the year were the following:

A Philippine black cobra; 2 yellow cobras; 1 Indian cobra; 1 ring-neck cobra; 2 African puff adders; 30 timber rattlesnakes; 20 Pacific rattlesnakes; 4 red rattlesnakes; 1 rock python; 6 boas (South American) and a Cuban boa; 3 Ceylon monitors; 4 Australian monitors; 6 Gila monsters; 11 water "dragons" (Australian); 1 desert tortoise; 2 leopard tortoises, and an Orinoco crocodile.

A series of Cuban and Haytian iguanas captured by Curator Noble was presented as the gift of the American Museum of Natural History. A number of interesting reptiles were received through Mr. Beebe which were captured near the Society's Tropical Research Station in South America. Gifts to the Reptile Department are credited in a separate portion of this report.

Through the perseverance and energy of Mr. Ellis S. Joseph, of Platypus fame, the Reptile Department exhibited for the first time in the United States a series of true sea snakes, from Australian waters. These remarkable serpents have a flat, paddle-like tail and are strictly marine. They are brilliantly ringed and are very poisonous, being aquatic allies of serpents of the cobra type.

The Curator made a number of spring trips to snake dens in the mountains of New York state and collected large numbers of poisonous serpents. Many were retained for exhibition, while others were donated to zoological gardens in the United States or sent to laboratories where experiments are being conducted in preparations of anti-toxin for snake bite. During the summer the Curator made an extensive western trip, culminating in reconnoitering expeditions in the deserts of the southwest. This work resulted in the collection of some interesting desert reptiles, the establishing of sources for the supply of future specimens, and valuable photographic material. A comprehensive illustrated article on the results of this trip is now in type for an early number of the Bulletin.

In September, we were pleased to entertain Dr. Afranio Amaral, of the Institute of Serum Therapy, at Butantan, Sao Paulo, Brazil. Dr. Amaral brought us fresh tubes of anti-venomous serum for the treatment of rattlesnake bite. In a lengthy conference between Dr. Amaral, Dr. Gilbert Van der Smissen and the Curator of Reptiles it was decided to produce specific anti-venomous serums for treatment of the bites of the southern water moccasin and the copperhead snake. The Curator accordingly made two hundred extractions of venom from our series of copperheads and one hundred extractions from the moccasins. The poison was dried and shipped to Dr. Amaral. The venom will be used in immunizing a number of horses from which the anti-toxic serum is obtained. The new product should be ready during the latter part of the present year.

A census of the Reptile Department's collections, enumerated January 1, 1923, follows:

	<i>Species</i>	<i>Specimens</i>
Crocodylia (Alligators and Crocodiles)	4	43
Chelonia (Turtles and Tortoises)	19	162
Lacertilia (Lizards)	12	63
Ophidia (Serpents)	49	180
Amphibians (Frogs, Salamanders, etc.)	10	105
Miscellaneous (Lung Fish and other aquatic forms)	2	5
Total,	97	559

A complete enumeration of the contents of the animal collections revealed the following:

CENSUS OF THE ZOOLOGICAL PARK COLLECTIONS

January 1, 1923.

	<i>Species</i>	<i>Specimens</i>
Mammals	182	539
Birds	779	2,464
Reptiles and Amphibians.....	97	559
	1,058	3,562



MALAY SAMBAR DEER

Another tropical deer species of attractive form, adapting itself readily to life in our rigorous and changeable climate in a thoroughly satisfactory manner. One specimen—a female—has been in the park over twenty years

Photograph by Elwin R. Sanborn

REPORT OF THE VETERINARIAN.

W. REID BLAIR, D. V. S.

Of the 195 deaths occurring among the mammals during the past year, ninety-six, or about 50 per cent., were among small mammals, and the great majority of these were animals recently acquired or which had been in the collection but a few months. The greatest number of deaths occurred among Virginian opossums, a species not suited to close confinement, and the young of which are frequently affected with rickets. It is necessary to destroy many of these animals after a few weeks' confinement.

During the past year a number of our oldest animals died or had to be humanely destroyed on account of accumulated infirmities incidental to old age. Among these were: an Alaskan brown bear which had arrived in the Zoological Park in October 1899 and lived nearly twenty-three years; a female elk which arrived in 1899 and lived twenty-three years; a white alpaca which arrived in 1903 and lived nineteen years; an African leopard which came as a small cub in 1904, and lived nineteen years; a young lion which arrived in 1908, and lived fourteen years. Each year witnesses the passing of some of these old animals, to be replaced by younger and more vigorous specimens, but the decision to destroy them is nearly always reached with reluctance by their keepers and others. It is highly improbable that any of these animals would have lived as long in a state of freedom.

Cage paralysis among the monkeys, formerly so prevalent, is now a rare condition, and seldom seen except where animals are presented as gifts and are already affected with the disease when received. A carefully balanced ration containing all the necessary food elements seems to be able to keep the disease in check.

The losses of new born animals were unusually numerous during the past year. Among these were a giraffe calf, a baby chimpanzee, three lion cubs, kangaroos, and a number of deer born out of season, or during inclement weather when they were unable to withstand the exposure to hard storms.

Fatal injuries resulting from fighting or murderous attacks from cage or corral mates represent losses from unavoidable causes. A few such cases occur each year. A fine female yak

was killed by being gored by one of the males of the herd. Other losses included animals in the axis, fallow and red deer herds, as well as a number of foxes, raccoons and small mammals.

As in past years we have had a considerable number of deaths from pneumonia. Many cases of pneumonia have been treated very successfully among the animals of the primate collection. Keeper Palmer has a fine record for nursing pneumonia patients among the apes and monkeys generally. Bronchopneumonia was the cause of death in a number of California sea-lions. This is a common affection among sea-lions and one difficult to control. The disease may appear at any season of the year. Pneumonia is also a frequent complication appearing in animals suffering from digestive disturbances which tend to induce general debility.

As in recent years, but few cases of tuberculosis have occurred, and these have all been confined to animals in the primate collection. Quarantine, disinfection, isolation, frequent inspections and greater skill in detecting early cases of tuberculosis all have had an important bearing upon our comparative freedom from this disease.

The eradication and control of such pests as rats, mice, and cockroaches, which are intermediate carriers of infection, have doubtless contributed much to our success in keeping the collections free from tuberculosis infections.

Parasitic gastro-enteritis was the cause of death in a considerable number of small mammals, especially those dying soon after their arrival. The routine microscopic examination of intestinal discharges, obtained from new arrivals, revealed the evidence that a very high percentage of these animals harbored stomach and intestinal parasites. When the type of parasite was definitely determined by the microscopic examination of the eggs of the parasites, the administration of suitable vermifuges greatly reduced the number of deaths which would naturally have resulted from gastro-enteritis if the parasites had not been speedily removed.

Gastro-enteritis was the cause of death among a number of buffaloes and elk. The animals affected were usually the young stock. The buffaloes and elk obtained in 1921 from the herds in the Yellowstone National Park, developed chronic gastro-enteritis during their first spring and summer here and all of them died

from this disease. It is doubtful if buffalo and elk obtained from high altitudes can be successfully acclimatized in New York City.

Distemper claimed a number of animals from the small mammal collection, as well as from the collection of wolves and foxes. The keepers, however, always on the lookout for distemper, were able to recognize the disease in the early stages, and the prompt isolation of the infected animal prevented the disease making any headway. Distemper being a highly contagious disease, and one in which medical treatment is often very unsatisfactory, we promptly isolate all carnivora upon the first suspicious symptoms of this malady, for a few days observation. Such measures have kept us free from an epidemic.

In combating distemper it is very important that the symptoms of the disease are recognized early, otherwise, on account of the highly contagious nature of this affection among wild animals, epidemics will surely occur. Distemper shows a great variety of symptoms, the earliest one being loss of appetite, disinclination to exercise, thirst resulting from the fever, vomiting and chills manifested by shivering. Later there are watery discharges from the nose and eyes. The eyes become red, and a thick mucus discharge sticks the eyelids together. There also is a thick mucus discharge from the nostrils, which frequently clogs the nose, causing the animal much discomfort.

In wolves, coyotes and foxes, the first symptoms often are manifested by nervous twitchings, and a great weakness producing a staggering gait. In these animals, fits or convulsions, especially in young animals, should always warn one to be on the lookout for distemper. An almost constant symptom in distemper is rapid emaciation followed by loss of strength. In many cases the skin of the abdomen and inner surfaces of the thighs shows intense redness followed by pustular eruptions in the form of vesicles. These vesicles break in a few days, leaving reddened moist spots, which later become covered with dry crusts or scabs. Any animal showing any of the above mentioned symptoms should be promptly and completely isolated, and carefully observed for a few days in order to safeguard the other animals from infection; care being taken to thoroughly disinfect their dens and cages.

Mange, or sarcoptic scabies, is a skin disease which has given us considerable concern during the past year, the disease

having affected leopards, foxes, a jaguar, puma, lynx, zebra and a number of small mammals. Three cases appeared in the Lion House, in which two leopards and a jaguar were badly affected. These were promptly isolated and treated, the treatment continuing for a period of several months before the animals were cured and placed on exhibition again. Fortunately these animals were docile enough to be handled by the keepers, and the medication successfully applied to the skin. Mange is always a serious affection among wild animals, and under the most favorable conditions the treatment is slow and difficult, and recovery takes place only after prolonged treatment. Even after apparent recovery, the animal must always be looked upon with suspicion for several weeks, and carefully observed, in order to make sure that no parasites have escaped.

In the cases affecting the puma and the lynx, both of these animals had to be destroyed, since it was impossible to control the animals sufficiently for the successful application of the medication. The fact that the mange mites burrow beneath the skin to lay their eggs makes it necessary that the medication be vigorously applied to the skin. The superficial treatment by spraying the animal is inefficient and practically useless. We have found that the most effective treatment consists of free and vigorous application of "Mangoil" every second or third day.

Prevention of this annoying infection consists in complete isolation of suspected animals and avoiding contact with infected individuals and in careful and frequent disinfection of dens and cages. Under normal conditions the infection of a healthy skin takes place by actual contact with an infected animal, since the mange mites do not survive long away from their host. However, it has been found that the mites live from six to ten days in dark, damp, warm places, so that it is important to destroy bedding and disinfect sleeping quarters of infected animals.

DEPARTMENT OF ADMINISTRATION.

H. R. MITCHELL, Chief Clerk and Manager of Privileges;
WILLIAM MITCHELL, Cashier.

Before the first of the year it was apparent that the sum granted us by the Board of Estimate in the 1922 Budget would be inadequate for the maintenance of the Park, and the Executive Committee was asked to approve a budget in which the Society

assumed an estimated deficit of \$6,000 in addition to the expense of maintaining the Heads and Horns Museum Building from May 20 to the end of the year. By rigid economy in all directions throughout the year the Maintenance deficit to be borne by the Society was reduced to \$5,758.47, including the expenses of carrying the Heads and Horns Museum Building. There was an unexpended balance of \$2,307.07 in Salaries Account at the close of the year due to temporary pay-roll vacancies; but owing to the policy of the Board of Estimate in the previous year, no application was made for its transfer to other Maintenance Accounts.

The amount granted for the maintenance of the Park for 1923 was reduced below 1922 by \$2,422.44, and in addition no allowance was made for the attendant for the Heads and Horns Museum Building. The Society must therefore again be asked to assume the responsibility for an estimated Maintenance deficit of \$7,705.00, in addition to providing funds for an extensive program for general plant repairs and salaries that cannot be longer deferred.

With the rapidly increasing number of automobiles, parking facilities at the Park's only driving entrance, the Concourse, have become completely inadequate. Sunday and holiday traffic on Pelham Parkway is so heavy that parking along this drive outside the entrance is not permitted by the Police Department. Not more than 150 machines can be accommodated on the Concourse and circle. This is only about 20 per cent of the cars entering at the Concourse entrance on maximum days during the past year. About 90 per cent. of these come during the afternoon, and as the average visitor wishes to remain two hours or more the result is that automobiles cannot be accommodated at this entrance during the greater part of the afternoon. Many cars are obliged to drive out without their occupants visiting the collections. It seems to be out of the question to increase parking space at the Concourse entrance but some relief should be given elsewhere. Considerable parking space, I believe, can be provided immediately, at small expense, along Boston Road, at both the Buffalo and Boston Road entrances. A suitable sign displayed at the Concourse entrance would divert many cars to these entrances as soon as all parking space at the former has been taken. There is considerable space available at the Crotona entrance, but the paving on Crotona Parkway near and on the



BOAT HOUSE—BRONX RIVER

The new Balcony at the left of the building and the stone stairway leading to the boat landing—improvements made during 1922—have facilitated the work at the Boat House and greatly improved the appearance of the building

Photograph by Elwin R. Sauborn

plaza in front of this entrance is in such bad condition that little use is made of this space. An effort should be made to get the Park Department to make at least temporary repairs here early in the Spring, if a permanent pavement cannot be put down at that time.

Everything possible should be done at once to add to our automobile accommodations as it is certain that the number of cars will increase within the next few years.

The regrouping of the accounts of the Society on the basis on which they were printed in the annual report for the previous year has worked out very satisfactorily and no further revision seems to be required for the present. They again appear in the same form elsewhere in this report. The usual quarterly audit of all accounts was made by Marwick, Mitchell & Co. and their certificate is printed immediately following the Treasurer's Statements.

Privileges.—Neither the gross business nor the net results for the year in the privileges reached last season's figures, due to a very large extent to several rainy Sundays in the mid-summer season. The falling-off in the net figures for the year as compared with 1921 was, however, not disproportionate to the reduction in attendance figures.

In our report for the year 1921, a definite program of urgently needed improvements in connection with the privileges was outlined. Unfortunately but few of them could be carried out and the remainder of the program had to be deferred until later.

Three very substantial improvements were made at the Boat House. These were, the rebuilding with concrete of the old wooden walk at the north end of the dock, replacing the wooden stairs from the Boat House to the dock with a very substantial stone and concrete stairway, and the construction of an attractive dining balcony at the southeast corner of the building, above the dock and overlooking the lake.

Late in the year authority was obtained for the erection of a new soda pavilion on the site of the old frame shelter in front of the Reptile House which has served the purpose for twenty-two years. Construction of the new building will commence early in 1923 so as to be ready for the opening of the season. This is

an improvement which has long been needed. The location is in one of the most congested parts of the Park and the facilities for service furnished by the old shelter have long since been outgrown. The new building, while not large, will be of a substantial character, with wide openings on three sides, permitting of its taking care of a large amount of business on Sundays and holidays. New equipment of the very best type will be installed and it is hoped the entire plant will be a model for such service in parks.

Rocking Stone Restaurant:—The season at the Rocking Stone Restaurant was the most unsatisfactory in any branch of the privileges. The fact is that it takes a certain gross business to carry the expenses necessary to operate the Restaurant on the basis that we have set for ourselves, and the necessary amount of business was not forthcoming. Much of our difficulty is indicated in the result for the single month of June during which, very largely on account of bad weather on Sundays, the gross business decreased nearly 50 per cent., while only very small corresponding reductions could be made in operating expenses. The year's operation entailed a considerable loss, whereas in 1921 we were able to show a modest profit.

Boating: While this department of the privileges did not reach 1921 figures, the receipts on the whole were very satisfactory. There was some interference in the early part of the season because of unavoidable delays in the construction work in connection with the improvements of the Boat House referred to elsewhere, but that seemed to be more than overcome by the added convenience of the improvements when they became available. It is expected that the full benefit will be indicated in the figures during the coming season. A carload of new boats was received early in the year to replace discarded equipment. We are again able to report that there were no accidents of importance during the season.

Boat House Restaurant: Because of unavoidable delays in the construction of the new balcony and other improvements at the Boat House, it was not possible to get the benefit of this improvement for the full season. There was, however, an encouraging increase in the gross receipts and the net results for the latter part of the season in this privilege, which we

believe indicates a continued gain that will put this feature of the service on a satisfactory basis within the next two years.

Soda Water: The gross business of this division of the privileges decreased somewhat after making allowance for the war tax collections, which during the previous season were paid by the consumer and added to the receipts, but the reduction in gross receipts did not follow that in attendance. It is hoped that the construction of the new building and fountain in front of the Reptile House can be carried on so that it will be ready before the opening of the season and that there will be no interruption of service. There is no question but that the improvements planned will in the near future add materially to the business and in all probability make a favorable showing during the coming season.

Guide Books: At the end of the year 1921 the stock of the 17th edition of the Guide Book was so low that it was necessary to arrange for another run of 10,000 of the same edition, to insure our getting through the season. This run of 10,000 came out in June but it was not necessary to put them on sale for several months. At the end of the year there were about 7000 on hand, and in all probability another run of 10,000 of this edition will have to be made to take care of 1923 requirements.

A revision of the Guide Book should be made in the near future, and a new set of plates should be made as the present plates have already given us a record run, are badly worn and cannot give us the class of work we would like to have for this publication.

Souvenir Books, Postals and Miscellaneous Publications: Postal Card sales for the year made the best showing of all our miscellaneous publications but did not reach the previous year's figures. The stock on hand is still large and will easily carry us through 1923.

In getting out the last edition of the Wild Animal Stamp Primer a considerable portion of the edition was stocked flat to be bound as needed in order to reduce the amount of our investment. It was necessary to have additional copies bound during the last season. The same arrangement was made for Mr. Crandall's book, "Pets and How to Care for Them."

The souvenir book and other miscellaneous publications made good showings but stock is not sufficiently low to require re-issues.

Gate Receipts: Expenditures for Improvements and Repairs, the account to which Gate Receipts are directly credited, amounted to \$17,060 in 1922 as against \$25,463.77 in 1921, the larger sum in 1921 being due to an unexpended balance of more than \$11,000 carried forward from the previous year. Receipts at the gates in 1922 were \$15,463.60 as against \$17,059.80 during 1921.

Riding Animals: The removal of this privilege to a new location has been strongly urged for several years. The matter was under consideration late in the year 1922 but no decision was reached and action was finally deferred until the Spring of 1923. In a proper location we believe that a considerable increase can be made in this service and the dangers attendant upon its operation where now situated entirely eliminated. While the volume of business and the net results did not quite equal those of the previous year, the reduction was not proportionately as large as that in attendance.

Motor Chairs and Baby Carriages: The demand for this service has more than trebled within the last year and there must be a considerable addition made to the equipment early in the coming season.

When the renting of baby carriages was started a couple of years ago we did not realize the extent to which this service would be used by park visitors and no provisions were made for the storage of these carriages beyond the very limited space that was available at entrances. The result is that the large number of carriages now in use cannot be properly stored and cared for at or near any of the points where needed. One of the rooms in the Lion House has been used to some extent for the purpose. Some temporary provision should be made to shelter these carriages. Such storage must be provided at or near all the entrances as most of the calls for carriages are made there as visitors come into the Park, and in order to give maximum service it is necessary to allow carriages to be returned at any entrance by which visitors may leave the Park.

DEPARTMENT OF FORESTRY AND CONSTRUCTION.

HERMANN W. MERKEL, Chief Forester and Constructor; WM. DE WELLWORTH,
Assistant Constructor; E. H. COSTAIN, Assistant Forester;
MICH. E. O'KEEFE, Head Gardener.

Being again under the handicap of inadequate funds provided by the City for maintenance, the Park and its installations would have fared very ill indeed during the past year if it had not been for outside help coming most opportunely. That we were able to take care, to a certain extent at least, of the worst items of repairs and replacements was due to the fact that over \$9,000 in the form of emergency pay for men out of work was supplied by the Association for Improving the Condition of the Poor. Altogether these men supplied 3,071 days of work, and a few days labor were also provided by the Charity Organization Society. In addition the Zoological Society provided funds to the extent of \$17,060.00.

The men furnished by the Association for Improving the Condition of the Poor helped materially in the cutting up of the number of dead trees that had accumulated in the forest, which at the same time provided a valuable lot of firewood for our buildings and the crematory. A number of lines of water pipe that had become useless were renewed, and one new line reaching from Baird Court to the plateau west of the Boston Road, was installed. In addition to this work, these men were employed in the routine cleaning, weeding and mowing, as well as the picking up of an enormous amount of paper and other refuse.

With the general improvement of labor conditions during the summer, this Association was able to find paid employment for the men elsewhere, and a few were engaged on our Improvement and Repair work, so that by June 1 this supply of labor without charge to the Zoological Park ceased. We cannot hope for any more of this assistance during the next year, and the appearance of the Park is bound to suffer thereby.

The New York Zoological Society owes a debt of gratitude to the Association for Improving the Condition of the Poor and to Mr. Wm. H. Matthews, its Director, Department of Family Welfare.

MAINTENANCE

The usual amount of maintenance work accomplished through our permanent force of mechanics and laborers was satisfactory to a large degree, though the force should have been at least 15 per cent larger as a total to accomplish all things necessary.

Several of the items listed under Improvement and Repairs had considerable assistance from the men in the maintenance force. Mr. O'Keefe supervised the forestry and gardening, and Mr. de Wellworth the construction work.

At the Nursery, bedding and decorative plants as well as a number of conifers, such as retinisporea, yews and arbor vitae were raised, and live stock and vegetable food were produced as usual.

The picnic grounds east of the Bronx River were patronized more extensively than ever before. One hundred and fifteen permits were issued, with a total attendance at organized picnics or outings to the extent of 19,200 as against 11,125 in the previous year. The attendance in unorganized small parties for which no permits are issued was of course vastly greater, bringing the total attendance in these grounds up to 348,450. Many of these parties come to the Zoological Park to see the animals and they make use of the picnic grounds either before or after viewing the collections. One hundred and ninety-nine summonses were issued, arrests were made, with a total of one hundred and ninety-four convictions.

During the season there were twenty-one days of skating on the Bronx River, during which time the ice was kept in good condition and properly policed.

HEADS AND HORNS BUILDING

The Heads and Horns Building required a great deal of personal supervision, especially in its interior fittings, designs and contracts for which were made through this office.

IMPROVEMENTS AND REPAIRS

Of the items financed by the special Improvement and Repairs fund of the Society, the outstanding ones were as follows:

West Outside Mammal Cages: These cages, to the total number of sixty, which had been taken down the previous year, were entirely rebuilt in concrete and supplied with removable iron frames covered with electric weld wire or chain netting.

Fence Renewals: A great many of the range fences, especially in the Elk, Mountain Sheep and Wild Horse yards, were renewed.

West Outside Bird Cages: The work on the west outside cages of the Large Bird House was completed, requiring the rebuilding of the entire series of cages.

Eagles' Aviary: The taking down and rebuilding of the Eagles' Aviary, which had been going on for two years, was finished.

Burrowing Rodents: The entire superstructure of the Burrowing Rodents' quarters, including all of the wire netting, was replaced after a new design.

Water Supply Renewals: A new water main was laid for the entire length of the lower Buffalo Range, connecting with the new main from Bronx Park South, and new pipes were laid to supply both the lower and upper buffalo corrals. A new pipe was laid to connect with the six-inch main from the Southern Boulevard, this line supplying the ranges surrounding the Asiatic deer barn and the Axis and Japanese Sika deer ranges. A new pipe was laid to connect the Ostrich House with the main water supply, and the Comfort Station on the Elephant Walk was brought into direct connection with the six-inch main by means of a three-inch pipe instead of following the former roundabout way.

All these lines were built with the best galvanized wrought iron pipe available, instead of the original steel pipe laid twenty or more years ago, and from past experience we may confidently expect the new lines to last at least twice as long as the old.

Sewer Renewals: The sewer line from the Riverside Comfort Station east of the Bronx River, which had been disturbed by the building of the fire alarm station on E. 180th St., was discontinued and a new line built to connect with the large concrete sewer built since the original installation was made. In this way a very aggravating source of trouble was eliminated.

Boiler Repairs: New heating boilers were installed in the Reptile House and in the winter house for Eagles, in both cases to replace leaky and wornout installations. Repairs were also made by the insertion of new sections in the boilers of the Small Deer House, Lion House, Reptile House, Antelope House and Ostrich House, and a number of other boilers were taken down and reset.

Ponies' Corral: A corral and shelter shed 16' x 50' was built.

Pygmy Hippo Tank: An additional concrete bathing tank was installed in the Elephant House.

Miscellaneous: Other items taken care of by the fund were as follows: Repairs to Electrical Apparatus, Auto Truck repairs, Guard Wires and many other small miscellaneous items.

SUMMARY

Again I feel it necessary to call attention to the tremendous amount of work still to be done in the way of repairs and replacements to fences, enclosures, buildings, walks, water and sewer lines. The main roof of the Elephant House, including that of the dome, is in a deplorable condition. The outside cages of the Monkey House, both as to foundation and super-structure, will need to be taken in hand next year. A portion of the terra cotta and brickwork of the Small-Deer House will need to be taken down and relaid. The roofs and gutters of several entrances must be renewed. A new water line to supply the service buildings and yards is imperative, and several of the water supply pipes in the Service Building itself require renewal within the next two years. New cages will have to be built on the east side of the Mammal House, and the Reptile House roof, still temporarily repaired, will need renewal very soon. A new heating boiler will have to be supplied at the Nursery and the baytree house at the Nursery will have to be enlarged.

All of this work, together with the numerous other items that are beyond the much-reduced maintenance force, will call for a considerable expenditure, and with the refusal of the Board of Estimate and Apportionment to supply funds for this purpose, and the inadequacy of the gate receipts to meet these expenditures, the outlook is none too pleasant.

DEPARTMENT OF PHOTOGRAPHY AND PUBLICATION.

ELWIN R. SANBORN, Editor and Photographer; ANNIE NEWMAN, Assistant.

Photography: The following is the work accomplished in the photographic department:

Orang-utan, chimpanzee, rhesus monkey, black bear, hyena, Cape fur seals, Nubian giraffe, Bactrian camel and young, American wapiti, American bison, mountain zebra, Hartman zebra, Mexican deer, Texas deer, Red River hog, giant porcupine, African elephant, pygmy African elephant, platypus; silver gull, Java peafowl, Kolbe vulture, black vulture, white-bellied sea gull, blue-eyed cockatoo, Indian black-backed goose, emperor goose, coscoraba geese, black-necked swans, Australian swan, maguari stork, European white stork; orange and black sea snake, blue and black sea snake, Galapagos tortoise, spike-tailed lizard, Cunningham skink, radiated tortoise, leopard tortoise, red-footed gopher tortoise and Australian monitors.

Aquarium: Sand shark, dog shark, shark suckers, porcupine fish, Spanish hog fish, jewfish, porkfish, salt water catfish, eels, moray, black angel fish, thread fish, moon fish, calico bass, small-mouthed black bass, burr fish, trunk fish, rudder fish, skate and sea robins.

A complete series of negatives was made of the new pumping-plant of the Aquarium, including pump-room, vacuum pump, sump pump, circulation pumps, details of pumps and the new low-pressure boilers. Also apparatus for detecting sounds under water and several preserved specimens.

Miscellaneous: A complete series of negatives of the exterior of the Heads and Horns Museum and a series of interior views of both halls after the erection of the glass screens. A complete series of negatives of every group of the collections in the two halls. The entire sides of the halls were photo-



HERD OF BARASINGHA DEER

One of the most attractive of the deer collections of the Park. They have taken kindly to captivity and multiplied so rapidly that the Society has offered the surplus for sale

Photograph by Edwin R. Sanborn

graphed in sections embracing each group of both the zoological and geographical arrangements and various isolated exhibits, such as the anatomy of horns and antlers, interlocked antlers, etc. In addition an extensive series of negatives was made of important individual record heads. The Society now possesses a most complete collection of negatives of the Heads and Horns specimens.

A series of moving pictures of five different subjects for the Pathe Review was arranged, directed and successfully completed. The Pathe Review has the most extensive circulation of any of the motion picture news distribution mediums, and is shown throughout the entire civilized world. Each subject in the Review is from 200 to 250 feet in length and its advertising value is, therefore, more enduring and impressive than the average news reel.

A record of a visit by Miss Helen Keller to the Park was made and some interesting impressions gained of her serious endeavors to learn just what each animal appeared to be like under the sensitive touch of her amazingly developed fingers. Mr. Ditmars, who arranged the trip, will tell of some of her views in a future number of the BULLETIN.

Records were made of the additions and improvements to the Boat House Restaurant and boat landing showing various details of the pier, new masonry steps and arches and the new pavilion; A. I. C. P. laborers; photographic files, albums, scrap books, cabinets, structural details of platypus shipping tanks, details of destruction to two sections of the elephant yard fences wrought by the male African elephant, and Sunday visitors to the platypus exhibit.

Following is a recapitulation of the photographic work in 1922:

Negatives for Park and Aquarium.....	415
Prints for Publication	821
Prints for Miscellaneous purposes	1,374
Prints made for index albums	881
Enlargements	120
Lantern Slides	277
Total	<hr/> 3,888

PUBLICATIONS

Bulletin: Six numbers of the BULLETIN were issued during 1922, with a total of 148 pages and 162 illustrations. While there were no special numbers of this publication, the general average was of sufficient interest to create publicity of more than ordinary value. The articles devoted to the platypus which lived in the Park for several weeks, and several interesting exhibits at the Aquarium were reproduced in the London Illustrated News, L'Illustration, New York Sunday World Rotogravure sections, New York Times, Mid-week Pictorial and Popular Science Monthly. The reproductions in these publications were of the very best kind, and of immense advertising value to the Society. It is reasonable to say that no other exhibit in the Park ever attracted such unusual attention as the platypus, nor such extensive publicity. A complete review of the publications of the Society has been made and appears on the 3rd and 4th pages of the BULLETIN cover. As many interesting articles have been included in our Annual Reports during the past twenty-three years, where they have been in practical obscurity, these subjects have been culled from the contents and printed in the order of their appearance in the various Reports, commencing with the earliest issue.

Annual Report: The Annual Report was issued in the usual form, comparing favorably with the issues of former years.

Zoopathologica: There was no material available for this publication during 1922, the last issue having been contributed by Dr. G. A. MacCallum in 1921.

Zoologica: Three numbers—14 to 16 inclusive—of this publication were added to Vol. II, two from the Aquarium and one from the Park. In the order of their appearance, they were: Food of Certain Minnows, C. M. Breder, Jr. and D. R. Crawford; The Fishes of Sandy Hook Bay, C. M. Breder, Jr., and The Weaving of the Red-Billed Weaver Bird in Captivity, by Herbert Friedmann; a total of 88 pages and 37 figures.

Membership: The original index file of the list of members has been amplified, rearranged and a new system of separation cards of the latest type inserted; a plan which makes the location of names a swifter and more certain operation. In addition, a second index has been made, subdividing the list into classes,

and including, also, a complete file of persons to whom publications are sent. By this new arrangement a total of membership of each class, deaths, resignations, new members and a total of the entire list is available at any moment. Information as it comes to hand concerning any member is transferred to the cards so that the records are complete and up to date at all times.

Mailing: The mailing of all publications, invitations, business notices and other matter is being handled with more satisfactory results than last year. A disturbing factor still exists that would give us a perfect record if it could be obviated—*i.e.*—the returned copies of publications and other data sent to members who fail to leave forwarding addresses or removal notices. There have been occasions where publications have been returned several times either through refusal of acceptance by agents of absent persons or uncertain forwarding addresses. The most painstaking endeavor of this department to make this service perfect is completely frustrated by this obstacle, despite every effort to follow up fleeting and hazy addresses. Nearly 35,000 pieces of mail were sent out last year, and although the percentage of return was very low, it could be made even less by furnishing correct forwarding addresses.

Exhibitions: Two exhibitions of enlarged photographs were prepared and shown; one at the American Museum of Natural History and the other in connection with the Civic Improvement Society at the New York Camera Club. The Society was awarded first prize at the American Museum in the class of animals photographed in captivity. The exhibition at the Camera Club was a series of views of the development of the Park, showing conditions before and after improvements.

CONCLUSION

Zoologically, the year 1922 closed for us in a blaze of glory. Financially, it closed in sackcloth and ashes. There is nothing to be lost by minimizing or ignoring existing conditions. It is unwise to pretend that all is well when some things are ill. It is necessary that the taxpayers of New York, and the members of the Zoological Society as well, should be told that in the vitally important business of maintaining our improvements we

are literally at the end of our rope. A special fund of \$15,000 raised in the Society for the year 1923 will give twelve months' relief, but it will not be a permanent solution of the question. "How and where?" We must have \$15,000 more *each year* hereafter, and no smaller sum will serve.



REPORT OF THE DIRECTOR OF THE AQUARIUM

By CHARLES H. TOWNSEND

THE New York Aquarium completed its twenty-sixth year in December 1922, with a record of fifty-one millions of visitors.

The ninety-six exhibition tanks of the Aquarium, having a total of 455 linear feet of glass fronts, contain at the present time 5,236 specimens of fishes and other aquatic forms of life, representing 184 different species. This is a greater number and variety of exhibits than can be found in any other aquarium.

That the New York institution is generally regarded as the world's most important public aquarium is indicated among other things, by its correspondence. It has during the past few years supplied detailed information to many home and foreign cities on the methods of aquarium construction and operation, some of them as far away as London, Madras, Samoa and the Dutch East Indies.

The plans for the American aquariums now in operation, under construction or proposed, have all been revised in the New York Aquarium. The cities included are Boston, Detroit, Miami, San Francisco, Chicago and New Orleans. Requests for detailed information have lately been received from St. Louis, Los Angeles and several smaller cities. It is possible that with the interest now being taken in public aquariums, the New York Aquarium may be relegated to secondary rank in spite of its acknowledged lead in number and variety of exhibits. The building is in need of external improvement and also moderate enlargement for the increase of exhibits and to provide facilities for administration. Such improvements were approved by the City a year ago but funds have not yet been made available.

An aquarium with extensive marine collections requires a complicated pumping equipment and the difficulties under which the New York Aquarium has long labored in this respect, have

only recently been overcome. Through the munificence of the New York Zoological Society it now has an ideal equipment for the circulation, filtration, aeration, heating and cooling of its four water systems. This great improvement cost the Zoological Society \$69,788.05. After a year of operation it has given the most satisfactory service. The three low pressure boilers installed at the same time have under all conditions of weather, heated the building and maintained proper temperatures of water for tropical collections. While all three were in use during the winter, two of them proved sufficient in spring and fall and a single boiler served for the summer months.

While the space in the rear of the building formerly occupied by the steam pumping plant has been largely cleared of abandoned machinery, there remain the indispensable distributing tanks, fresh-water filters, and the refrigerating and ventilating machinery. These cannot be removed until space for them in the proposed third story becomes available. After this has been done, all the abandoned space in the rear of the building will be available for new exhibits. Private funds already have been provided for the construction of large glass-fronted tanks. This improvement will permit of an increase of fully twenty per cent. in the collections of the Aquarium.

IMPROVEMENTS DURING THE PAST TWENTY YEARS

The year 1922 is the twentieth in the history of the Aquarium under the management of the Zoological Society. The improvements made during this period were directed chiefly toward the mechanical equipment of the building, in its vital relation to the living aquatic forms which constitute the exhibits of the Aquarium.

The maintenance of such exhibits is absolutely dependent upon the character of its water systems. Owing to the naturally low salinity and the ever increasing pollution of the harbor, the securing of a new sea water supply was found to be imperative. This improvement served to prevent heavy losses among the marine collections.

Other improvements affecting the lighting, ventilation and interior appearance of the building, added greatly to the comfort of visitors. These betterments were followed by the enlargement

of the exhibition tanks and a consequent increase in the collections.

Owing to the flooding of the basement fire room during monthly periods of high water and the perpetual disadvantages accompanying such a condition, it became necessary to remove the pumping and heating plant to a water-proofed basement at the opposite side of the building. This was done by the Zoological Society with its own funds, at a cost of \$69,788.05. Pumps driven by electric power were substituted for those driven by steam.

Much of the water piping originally located in the earth beneath the building having rusted out, was replaced and made permanently accessible by the construction of pipe galleries under the main floor.

All of these alterations and additions stand as permanent improvements, vital to the successful operation of a great public aquarium. In addition many minor improvements have been made through the maintenance fund as opportunity afforded.

As all aquariums must collect their own exhibits and the proper stocking of the New York Aquarium became a heavier task, a collecting boat was provided by the Zoological Society at a cost of over \$4,000.

Following is a list of the principal improvements effected through funds supplied by the City, the New York Zoological Society and through the annual maintenance fund:

The construction of reservoir for stored sea water; the enlargement of all skylights above exhibition tanks; the installation of a ventilating plant; the painting of the whole interior; the enlargement of exhibition tanks; a new electric pumping plant; a collecting boat; the construction of pipe tunnels under main floor; the introduction of lead-lined piping; the installation of filters for stored sea water; the installation of filters to clean harbor water; the installation of a large feed-water heater for boilers; the introduction of electric light; the installation of a heater for stored sea water; the construction of improved shipping tanks; the placing of ornamental rock-work in tanks; the installation of a fish hatchery as an exhibit; improved labeling of the collections; a general increase in exhibits.

Collections.—The collections necessarily consist chiefly of fishes because of the unsuitability of the building to the keeping



GREEN AND HAWKBILL TURTLES
Photograph made by Elwin R. Sanborn at the New York Aquarium

of aquatic mammals, reptiles, batrachians and invertebrates. The mammals available, such as seals, porpoises and manatees, do not long survive the indoor life, especially in a building that has to be kept warm during half the year for the comfort of visitors, and in pools where room for exercise is limited. If outdoor pools for use in summer were available, they would doubtless acquire the resistance necessary for their housing in winter. Lacking such facilities it would perhaps be better to discontinue the keeping of mammals altogether. Batrachians and aquatic reptiles do not thrive without sunlight which cannot at present be admitted. Invertebrates from northern waters cannot be kept until a separate system of cold sea water is provided and the transportation of tropical invertebrates has so far proved to be difficult.

The present system of warm sea water is entirely satisfactory for the keeping of our large collection of tropical fishes and the sea fishes inhabiting local waters in summer. Fresh-water fishes do well in water derived from the city supply.

The collections of the Aquarium now number as follows:

	<i>Specimens</i>	<i>Species</i>
Fishes	3,726	133
Aquatic reptiles	138	16
Amphibians	233	11
Invertebrates	1,135	22
Mammals	4	2

The total number of specimens is 5,236 and of species 184.

If certain proposed improvements in the building are made, the collections in general will be larger and more varied.

Tropical Collections:—During the summer fishes were brought from Florida to the number of 844 specimens and 71 species, in addition to which were 83 crustaceans of 5 species. Included in these collections were many fishes from the Miami Aquarium which was closed early in the spring. One trip to Florida was made in coöperation with the Detroit and Philadelphia aquariums.

Exchanges:—Two exchanges were made with the Detroit Aquarium whereby 1,233 fresh-water fishes were brought to New York in return for local sea fishes. A collection of horseshoe crabs, fresh-water turtles, newts and frogs was sent through

Hagenbeck's of Hamburg to the Berlin Aquarium in return for a collection of European tench and salamanders. Many of the last were turned over to the New York Zoological Park.

The Sea-Horse.—That most attractive of small marine fishes the sea-horse (*Hippocampus*) is again on view at the Aquarium. This species, which virtually disappeared from New York waters following the severe winter weather of 1918, has not been available until the past summer, when numerous specimens were secured.

Gifts.—Among the gifts to the Aquarium during the year were 48 brook trout from the Eastern Trout Growers' Association through Mr. Rowland Hazard.

Messrs. Cheesebro Bros. of Fulton Market presented numerous large bullfrogs, which have thrived better in the aquarium than hertofore as a result of liberal feeding on live killifish.

The New York Conservation Commission having offered eight large muskallunge, they were transported by the Zoological Society from Lake Chautauqua to New York City.

Dr. J. B. Pardoe of Bound Brook, New Jersey, presented numerous specimens of the spotted pond turtle. Several western painted turtles were presented by Mr. D. S. Ritter of Indianapolis.

Mr. G. Friedrichs of Quebec presented eight unusually large eels.

Mr. D. S. Ritter of the Grassyfork Fisheries, Indianapolis, Indiana, presented over 150 small telescope goldfish.

The State Fish and Game Commission of New Jersey presented 35 large trout of three species.

Fish Hatchery.—The fish hatchery has for many years been an attractive exhibit of the Aquarium. The young fry turned out during the year included white-fish, yellow perch, lake trout, steelhead trout, rainbow trout and black-spotted trout. Fish eggs were supplied as usual from Government hatcheries and the young fishes turned over to the States of New York and New Jersey. All trout fry were liberated in waters of the Palisades Interstate Park, where they were delivered by the Aquarium. The Aquarium received in return numerous specimens of bass, sunfish and pickerel. Several quarts of yellow perch eggs received from the United States Fisheries Station at Swanton, Vermont, were hatched in the Aquarium and dis-

tributed to Central Park and Prospect Park lakes where the stock of this species had become reduced.

Work of the Collecting Boat:—The Aquarium well-boat *Seahorse* made nineteen trips between May 2 and October 23, averaging about two days each. The specimens collected numbered 2,886, representing 52 species, large numbers of menhaden, killifish and invertebrates. It is interesting to note that the specimens brought in by the *Seahorse* during the past three seasons were nearly all collected in the vicinity of Sandy Hook less than twenty miles from the Aquarium. Professor S. I. Kornhauser of the National Research Council accompanied the collectors on two trips of the *Seahorse* in his search for evidence on the presence of the destructive shipworm in local waters. Mr. H. L. Gaddis of Grosse Ile, Michigan, a member of the Zoological Society, presented important parts of the electric lighting equipment recently installed on the well-boat *Seahorse*.

Reservoir of Sea Water:—Owing to some undiscovered leakage it was necessary to make additions to the reservoir of stored sea water amounting to many thousands of gallons. This water was brought from the open sea near the Sandy Hook Lightship. In exchanging marine specimens with other aquariums for fresh water forms, it is necessary of course to forward such collections in pure sea water, which also makes a drain upon the reservoir.

Repairs to Roof:—On December 7, the Department of Parks awarded a contract for repairs to the roof of the Aquarium amounting to \$16,860.00.

Care of Iron Work:—During the year all piping was scraped and painted with red lead by employes as opportunity afforded. It should be noted in this connection that the term "attendants" does not fitly describe the employes so classified. They are in fact a working force performing multifarious duties, such as plumbing, scraping and painting pipe lines, collecting, cleaning and feeding.

Manatees:—Two manatees received from Florida May 26, died within two days of their arrival. A post mortem examination by Dr. Huntington showed that they had died of exhaustion, having been held too long in tanks before shipment.

Twenty large horseshoe crabs (*Limulus*) were donated by the Aquarium to the Oceanographic Museum at the request of the



WHITE PERCH (*MORONE AMERICANA*)

Photograph made by Elwin R. Sanborn at the New York Aquarium

late Prince of Monaco. They were transported without cost on the steamer *Caronia* through the courtesy of officers of the Cunard Line.

Motion Pictures:—Several film producers have during the past few years made motion pictures of the living exhibits of the Aquarium which have been widely exhibited.

Budget for 1923:—The City provided for maintenance of the Aquarium \$59,226.00. a decrease from that of 1922 of \$4,036.98, but electric power and light service for the Aquarium was assumed by the Department of Water Supply, Gas & Electricity. This service was taken over by the City on September 29.

A new aerating line 225 feet long was installed above the balcony tanks to safeguard the fresh water collections during the renewal of worn out drainage lines.

A new lead-covered iron coil was also installed for warming water pumped from the harbor to certain of the large floor pools.

Publications:—Papers in Zoologica —“The Food of Certain Minnows: a study of the seasonal dietary cycle of six cyprinoids with especial reference to fish culture”—Breder and Crawford. “The Fishes of Sandy Hook Bay”—Breder. The latter is a “by-product” of the activities of the *Seahorse* for 1920 and 1921.

Attendance:—The Attendance at the Aquarium during the year 1922 was 2,121,996, a daily average of 5,803.

ATTENDANCE AT THE NEW YORK AQUARIUM BY MONTHS, 1922.

January	Visitors.....	94,202	Daily average	3,038
February	“	103,568	“ “	3,698
March	“	168,649	“ “	5,440
April	“	238,026	“ “	7,934
May	“	218,543	“ “	7,050
June	“	184,165	“ “	6,159
July	“	269,585	“ “	8,696
August	“	272,597	“ “	8,793
September	“	209,620	“ “	6,988
October	“	168,248	“ “	5,427
November	“	110,857	“ “	3,696
December	“	83,936	“ “	2,708
Total	“	2,121,996	“ “	5,803

RECORD OF MONTHLY MEAN TEMPERATURES AND SPECIFIC
GRAVITIES OF THE WATER OF NEW YORK HARBOR
AT THE BATTERY IN 1922*

	Temperature.	Specific Gravity.
January	40°	1.012
February	38°	1.016
March	40°	1.011
April	44°	1.009
May	54°	1.012
June	62°	1.011
July	68°	1.011
August	70°	1.013
September	69°	1.014
October	64°	1.015
November	55°	1.016
December	46°	1.017

* From daily observations made at the New York Aquarium by Mr. A. H. Clendening. Specific gravity observations made with samples of water brought to 60° Fahrenheit.

TROPICAL RESEARCH STATION

Kartabo, British Guiana

REPORT FOR THE YEAR, 1922

By WILLIAM BEEBE, Director

STAFF (1923)

WILLIAM BEEBE, Director; JOHN TEE-VAN, Assistant; ALFRED EMERSON, Research Associate; GILBERT BROKING, Research Assistant; ISABEL COOPER and HELEN DAMROSCH, Artists; RUTH ROSE, Assistant; MABEL SATTERLEE, Microscopist.

THE Fifth Expedition of the Department of Tropical Research of the New York Zoological Society was more successful than any of the preceding. It left New York on February 1, 1922 and returned on November 8, 1922, carrying on work during eight and a half months, with a staff of nine people.

Personnel: Five members of the staff remained at the Station throughout the entire period:

William Beebe, working on general ecology, avian syringes, and monographs of the three-toed sloth, and variegated tinamou.

John Tee-Van, general assisting, fish data, photography and moving pictures.

Gilbert Broking, pen-and-ink drawing, and various bird problems.

Isabel Cooper, color plates.

Ruth Rose, general overseeing of house and servants; dissection, catalogues, live collections, and Indian folk-lore.

Other workers who spent from one to six months were: Henry Seton, Orthoptera; Helen Damrosch, Color Plates; Maud Haviland, Hemiptera; Mr. and Mrs. Paul Howes, Hymenoptera and Prof. and Mrs. Stevens, Mycology.

Visitors: About seventy visitors were entertained, among them being Lord Dunsford, M. Jean Delacour, and the Hon. Mr. Keatings of the Royal Indian Delegation.

Buildings: The laboratory remained in perfect repair throughout the year. The staff, as usual, were housed in comfortable tents.

Transportation: Two small boats were purchased with a special fund, and provided the vital tri-weekly contact with the Government steamers.

Government Relationships: These were most cordial, and in addition to convict labor in trail cutting, the Government laboratories provided us with sixty gallons of alcohol, free of cost.

Weather: The long rainy season began promptly on May 1st, and lasted three and a half months, interfering in no way with work, however, as the precipitation usually occurred only in late morning and early afternoon.

Collections: For the Zoological Park: Among other living specimens shipped north was a full-grown spider monkey, ocelot, great anteater, red howling monkey, electric eel, turtles, iguanas, boa constrictor and other snakes, night heron, spectacled owl, paca, and many fish.

Three separate unsuccessful attempts were made to get living hoatzins to the Park, one bird living to within sight of Sandy Hook. These wonderful birds were easily accustomed to a diet of cabbage and lettuce, and kept at the Station in health throughout a period of nine weeks.

For the American Museum: One hundred and thirty mammal skins, skulls and skeletons were gathered for the Museum, including a five-foot specimen of the rare giant armadillo.

For the Society's Tropical Collections: There were gathered about ten thousand insects, five hundred and seventy bird skins, four hundred and forty-two tongues and syringes, one hundred and eight colored plates, four hundred and ninety photographic negatives, twelve thousand feet of motion picture negative, one hundred and thirty-six nests and eggs, besides many alcoholics of reptiles, amphibians and fish.

General: (A) Mr. Paul Munoz of the Barber Asphalt Company of Trinidad, invited the entire staff to be his guests on the yacht Viking at Guanoco in Venezuela during the month of

October. Much research work was done, many living animals collected, and permanent relations established with the officers of the company.

On our return to Port-of-Spain, Trinidad, the Viking caught fire during the night and burned to the water's edge. All of my notes, cameras, films, and collections were saved by my boy, Sam Christopher, whom the Society has honored by making a life member.

(B) The fourth and final volume of the Pheasant Monograph was completed during the year, marking the successful accomplishment of the first great scientific undertaking of the Zoological Society.

(C) A new "Department of Tropical Research" was inaugurated and sustained during the year in the Zoological Society's BULLETIN, giving bi-monthly news of the work of the Station, and preliminary accounts of the researches which later will appear in ZOOLOGICA, the scientific periodical of the Society.

The following publications have appeared during the year:

- 109 Annual Report of the Tropical Research Station for the Year 1921.
William Beebe
Annual Report N. Y. Z. S.
- 110 Résumé of the Fifth Guiana Expedition.
William Beebe
Bulletin Zool. Soc., XXV, No. 2, March, p. 47
- 111 March Mammals at Kartabo
William Beebe
Bulletin Zool. Soc., XXV, No. 3, May, p. 64
- 112 Birds of Paradise in the West Indies
William Beebe
Bulletin Zool. Soc., XXV, No. 3, p. 66
- 113 Live Bird Collecting in French Guiana
M. Jean Delacour
Bulletin Zool. Soc., XXV, No. 3, p. 62
- 114 The Fifth Year of the Tropical Research Station
Henry Fairfield Osborn
Science, Vol. LV, No. 1419, March 10, 1922

- 115 Kartabo Fish Life
William Beebe
Bulletin Zool. Soc., XXV, No. 4, July, p. 75
- 116 The Land Minnow of Kartabo
John Tee-Van
Bulletin Zool. Soc., XXV, No. 4, p. 72
- 117 The First Hoatzins in Captivity
William Beebe
Bulletin Zool. Soc., XXV, No. 4, p. 71
- 118 Some Hymenopterous Parasites of Lignicolous Itonididae
Charles T. Brues
Proc. Am. Acad. Arts and Sciences, Vol. 7, No. 11, May,
1922, p. 263
- 119 The Giant Armadillo
William Beebe
Bulletin Zool. Soc., XXV, No. 5, p. 117
- 120 The Dance of the Butterflies
John Tee-Van
Bulletin Zool. Soc., XXV, No. 5, p. 120
- 121 One Hour of Jungle Life
William Beebe
Bulletin Zool. Soc., XXV, No. 5, 123
- 122 Mangrove Mysteries
William Beebe
Harper's Magazine, October
- 123 A Day in a Jungle Laboratory
Ruth Rose
Atlantic Monthly, December
- 124 Notes of a Bird Lover in Tropical America
J. Delacour
Avicultural Magazine, (3) XIII, December
- 125 The Pollination of *Marcgravia*
Irving W. Bailey
Amer. Journal of Botany, IX, p. 370
- 126 Notes on Neotropical Ant-Plants: 1, *Cecropia angulata*,
sp. Nov.
Irving W. Bailey
Botanical Gazette, LXXIV, p. 369.

REPORT OF
THE PENSION BOARD
TO THE BOARD OF MANAGERS

THE Pension Board under the chairmanship of Mr. William Pierson Hamilton has continued to do its work as in previous years, meetings being held at the office of the Chairman whenever necessary. The only change in the personnel was the resignation of Mr. Percy R. Pyne as Treasurer and the appointment of Mr. Cornelius Agnew in his place. Mr. H. R. Mitchell has continued to act as Assistant Treasurer and Mr. Merkel as Secretary.

The number of pensioners remains at thirteen. Mrs. Elizabeth Lawrence, who was receiving a widow's pension, died on January 16, 1922, and in the same month a pension was granted to Mrs. Selma Spicer on account of the death of Richard Spicer, which occurred on January 1, 1922. On account of the slightly larger pension due Mrs. Spicer, the pension payroll shows a slight increase, namely, from \$4,310.64 to \$4,413.60.

For the first time since the establishment of the Fund, payments on account of pensions have slightly exceeded the pension dues collected from the members, but this was more than offset by the profits derived from the sales of securities which had increased in value since their purchase, the gain from this source being \$1,845.90, and the total resources available for the payment of pensions on January 1, 1923, amounted to \$90,229.57, as against \$77,888.99 on January 1, 1922, thus showing a net gain for the year of \$12,340.58, while during the previous year the net gain amounted to \$10,424.66.

Four employees became members of the Pension Fund during the year, namely, Frank Alles and Justus Mitchell, employees of the New York Zoological Park, and Thomas H. A. Hawley and Marvin S. Fenstermaker, employees of the New York Aquarium. Three members resigned on account of leaving the service of the

Society, which relieved the Fund of accumulated services of twenty years and one month. The refund of dues collected from these members with accrued interest amounted to \$323.40.

The membership on January 1, 1923, remains the same as that of last year, namely, 125.

Two important changes in the rules governing the Pension Fund were recommended by the Board during the year and were concurred in by your Committee, so that they are now in force. Both rules work toward a more equitable distribution of pensions and refunds, Section 16 and 21 now reading as follows:

Section 16

As amended by the Executive Committee, February 16, 1922.

Pension on Account of Disability through Illness or Accident Prior to Superannuation.

(a) In the event that a subscribing employee who joined the Fund prior to February 16, 1922, who is not in receipt of, or entitled to a pension under any of the other provisions of these rules, shall, by illness or accident, be totally disabled, either temporarily or permanently, there shall be paid to such an employee a pension the same as he or she would have received upon retirement under the provision for superannuation.

(b) In the event that subscribing employee who became a member of the Fund after February 16, 1922, and who has been a member of the Fund for one year or over, and who is not in receipt of, nor entitled to, a pension under any other provision of these rules, shall by illness or accident be totally disabled, either temporarily or permanently, there shall be paid to such member a pension computed in the following manner.

If the employee has been a member of the Fund for over one year, there shall be paid to him a pension of 50 per cent. of that which he or she would have received if retired upon his or her first eligible pension under the provision for superannuation, with an addition of 5 per cent. of such superannuation pension for each year of membership thereafter, so that at the end of eleven years of membership in the Fund, he or she would be entitled to receive a pension equal to his or her first eligible superannuation pension, except that the minimum pension to be paid under this paragraph shall be 20 per cent. and the maximum 30 per cent. of the employee's average salary for the last three years of service.

No pension shall be paid to any employee who has not been a member of the Fund for one year.

(c) In the event of the total disability, either temporarily or permanently, of a subscribing employee to perform his or her duties, such disability resulting from injury or illness directly incurred in the carrying out of his or her duties, there shall be paid to such employee a pension the same as he or she would have received upon his or her first eligible pension under the provision for superannuation.

No right to receive a gratuity under paragraphs a, b or c shall accrue until a resolution directing such payment shall have been adopted by the concurrent votes of at least six members of the Pension Board.

Such employees must also submit to medical examination to be made by a physician appointed by the Pension Board, at any time at the discretion of the Pension Board before or during the period that such pension is being paid. If the said physician shall at any time report that the said pensioned employee has

recovered so that he or she is able to work, the Pension Board may direct that such pension shall thereupon cease.

The subscribers to the Pension Fund Income Account expressly agree that if the subscriber shall receive any salary or compensation under the Workmen's Compensation Law, or any similar law, or as the result of any judgment recovered against the Society or the City of New York, that the same shall be considered in lieu of pension, and the subscriber hereby releases and discharges the said Fund from any claim he or she may have thereon by reason of his or her contributions thereto.

Section 21.

Declining Insurance Feature.

In the event of the death of a former subscribing employee, after he or she shall have retired upon a pension, there shall be paid to the beneficiary or beneficiaries of such employee as elsewhere prescribed; or in default of such beneficiaries to the nearest relatives of such deceased, in the order of precedence specified in Section 22 of these rules, a gratuity in one payment equal to one year's average pension.

The Board is happy to be able to state that the healthy increase of funds available for pensions, the same being larger than in any previous year, continues to safeguard the security of pension payments to members of the Fund, and proves again the correctness both of principle and application of the rules formed eight and one-half years ago for the management of the pension system of the New York Zoological Society.

Respectfully submitted,

WILLIAM P. HAMILTON,
Chairman, Pension Board.

HERMANN W. MERKEL,
Secretary, Pension Board.

FINANCIAL SUMMARY

The financial administration of the Zoological Society is under the Treasurer, the Executive Committee and the Finance Committee.

The *City Funds* are derived under the vote of the Board of Estimate and Apportionment, City of New York, as follows:

City Zoological Park Building Fund (not active at present)
Zoological Park Maintenance Fund
Aquarium Maintenance Fund
City Aquarium Building Fund

The total appropriation by the City for these purposes during the year 1922 was \$355,648.84, which was expended as accounted for in this Report.

The *Zoological Society Funds* are divided into:

(1) The "Endowment Funds," including:

General Endowment Fund.....	now totalling	\$481,153.07
Sage Endowment Fund.....	" "	556,153.25
George F. Baker End. Fund..	" "	100,000.00
Cadwalader Endowment Fund	" "	22,296.58
Stokes Bird Endowment Fund	" "	5,815.00

(2) "Special Funds," including gifts from year to year from members and friends of the Society, which are divided into accounts as follows:

Animal Account, for 1922, derived from special endowment gifts and receipts of privileges	\$24,206.80
Art Gallery Account, for the purchase of Animal Paintings	2,000.00

The Society's funds and gifts also include:

(3) The Park and Aquarium building accounts, derived either from gate receipts, special contributions or

from its endowment. The expenditures from these building accounts for the past year were as follows:

Zoological Park Heads and Horns Building	
Account	\$50,888.65
Aquarium Alteration and Improvement	
Account	16,153.03
Zoological Park Improvement and Repair	
Account, derived by authority from Gate	
Receipts	17,060.00

and (4) The "Scientific Research and Publication Fund" divided as follows:

1922 EXPENDITURES ON EXPLORATION AND PUBLICATION

Publication Account	\$12,280.46
Tropical Research Station Account.....	11,175.01
Library Account.....	977.14
Heads and Horns Collection Account.....	7,191.93

Also the Publication of the Volumes I-IV of A Monograph of the Pheasants, gift of Col. Anthony R. Kuser, on account of which the total expenditures from 1909 to date amount to194,100.00

This financial summary shows that during the year 1922 from endowment, from contributions and from publication funds the Society has expended a grand total of \$200,544.97. For the continuation of this work, of such great public benefit in the Park and Aquarium, and of such great scientific and literary value in its publications, the Society requires the immediate addition of \$2,000,000 to its general endowment and the constant attention of its members and friends for the needs of its Library, of its Heads and Horns Collection, of its Publications, of its Animal Painting Gallery, etc.

Communications and contributions to the Endowment Fund or Building Fund should be addressed either to the

Secretary of the New York Zoological Society, 111 Broadway, or to the

Treasurer of the New York Zoological Society, c/o Farmers' Loan and Trust Company, 20-22 William Street.

The form of gift or bequest is printed opposite the first page of this report.

SUMMARY OF EXPENDITURES, 1896 to 1922, NEW YORK ZOOLOGICAL SOCIETY AND THE CITY OF NEW YORK

ON ACCOUNT OF THE DEVELOPMENT AND MAINTENANCE OF THE ZOOLOGICAL PARK AND THE AQUARIUM, INCLUDING THE
PURCHASE OF COLLECTIONS AND ALSO FOR THE SCIENTIFIC AND GENERAL PURPOSES OF THE SOCIETY.

Year	EXPENDED BY THE CITY OF NEW YORK			FROM GATE RECEIPTS		EXPENDED BY THE NEW YORK ZOOLOGICAL SOCIETY									
	Zoological Park Maintenance	Aquarium Maintenance	Bond Issues a/c—Park and Aquarium	Construction and Repairs	Purchase of Animals	Zoological Park Development	Aquarium Improvements	Zoological Park Maintenance	Aquarium Maintenance	Purchase of Animals	Aquarium Specimens	Heads and Horns Collection	Pension Fund Contribution	Library and Paintings	Scientific and General Purposes
1896						\$ 4,213.63									
1897						6,424.61									\$ 2,903.74
1898						23,597.80		\$ 1,292.16							4,339.20
1899	\$ 30,000.00					145,495.80		7,038.61		\$ 8,540.72				\$ 102.70	3,476.02
1900	40,000.00		\$125,000.00		\$ 2,470.88	34,626.24		6,189.33		3,784.32				88.13	5,601.78
1901	65,000.00		300,000.00		2,998.80	18,348.61		3,714.37		11,652.24				462.20	7,597.16
1902	85,000.00	\$ 5,959.97	250,000.00		4,256.50	5,908.69		2,757.57		20,983.07				224.73	11,068.69
1903	104,965.00	46,453.68	280,000.00		5,912.95	1,038.20				20,361.62				456.03	13,608.10
1904	104,965.00	46,439.72	315,000.00		5,421.90	1,013.87		1,894.37		14,299.61				887.16	15,072.84
1905	134,965.00	44,968.50	275,000.00		6,849.00	144.00				20,643.40				418.10	18,773.90
1906	144,965.00	44,987.71	250,000.00		8,132.35	778.48				14,907.36				319.16	17,961.67
1907	141,558.75	44,183.87	100,000.00		8,248.65	370.72				10,606.03		\$ 892.71		644.05	15,999.68
1908	154,627.00	44,157.27	65,000.00		9,446.40	232.27				4,231.61		735.77		1,313.87	14,693.92
1909	162,325.00	45,971.44	10,000.00		9,992.75	2,860.92				9,734.43		7,340.82		609.56	17,168.95
1910	167,632.00	45,974.86	89,500.00		9,909.90	5,918.35				4,339.25	\$ 973.90	2,036.39		1,021.87	20,627.77
1911	174,632.00	47,560.21	155,000.00		11,611.15	1,155.00				6,659.89	1,191.80	1,615.38		1,221.26	23,409.39
1912	182,365.00	46,597.08			11,838.40	40.00				22,750.18	1,350.03	556.94		1,031.55	32,109.01
1913	191,925.00	47,335.62	29,100.00		12,404.25	218.45				10,665.57	1,850.25	486.00		732.97	32,543.88
1914	200,000.00	46,995.53		\$ 9,237.81	3,831.15	2,175.13				22,590.44	1,792.99	338.73	\$3,333.33	3,541.15	28,246.42
1915	200,000.00	46,991.66	21,425.00	9,175.86		887.88				13,629.41	1,466.64	1,024.91	8,000.00	4,181.24	31,398.08
1916	197,074.35	46,996.43		9,599.81		425.30				13,511.12	2,193.57	1,031.47	8,000.00	1,555.12	38,339.99
1917	199,560.00	46,903.61		3,488.31	7,118.90	1,450.05		11,537.79		10,175.70	1,637.15	18.12	8,000.00	2,869.20	44,262.48
1918	207,586.00	48,630.71		2,642.70		48.12		1,580.00	\$ 93.61	8,425.92	960.19	18.61	8,000.00	3,559.85	34,125.49
1919	190,000.00	45,000.00		4,917.84			\$ 3,450.00	19,924.00	407.07	13,345.59	1,028.05	88.27	8,000.00	1,442.07	45,599.71
1920	250,098.27	53,971.48		17,438.28		5,007.00	4,095.03	5,141.92		32,761.08	1,654.02	263.86	8,000.00	2,517.64	51,018.20
1921	276,951.01	65,203.12		25,463.77		88,734.92	53,635.02	6,068.17	976.47	27,442.59	2,165.05	2,661.67	8,000.00	4,698.24	55,684.15
1922	264,618.05	63,341.26	25,000.00	17,060.00		50,888.65	16,153.03	10,074.88	3,326.28	43,047.41	3,057.91	7,191.93	8,000.00	1,765.78	58,797.69
Add premium on Bonds, less Balances reverting to the City															
			35,559.89												
Expended in connection with preparation and publication of "A Monograph of the Pheasants" — gift of Col. Anthony R. Kuser															
194,100															
Totals..	\$3,870,812.43	\$974,623.73	\$2,325,584.89	\$99,024.38	\$120,443.93	\$402,002.69	\$77,333.08	\$77,213.17	\$4,803.43	\$369,088.56	\$21,321.55	\$26,301.58	\$67,333.33	\$35,663.69	\$838,527.91
\$7,171,021.05			\$219,468.31												
			\$1,919,588.99												

CLASSIFIED SUMMARY OF EXPENDITURES FOR THE YEAR 1922, NEW YORK ZOOLOGICAL SOCIETY

	PARK MAINTENANCE		AQUARIUM MAINTENANCE		NEW YORK ZOOLOGICAL SOCIETY FUNDS						GRAND TOTAL	
	From City Funds		From City Funds		Special Funds		General Income Fund		Scientific & Research			
	Salaries	Other Items	Salaries	Other Items	Salaries	Other Items	Salaries	Other Items	Salaries	Other Items	Salaries	Other Items
Zoological Park: Maintenance by the City												
Administration.....	\$28,285.67	.....	.....	.....	.....	.....	.....	.....	.....	.....	\$28,285.67	.....
Care of Buildings and Collections.....	87,728.71	.....	.....	.....	.....	.....	.....	.....	.....	.....	87,728.71	.....
Care of Grounds.....	79,743.55	.....	.....	.....	.....	.....	.....	.....	.....	.....	79,743.55	.....
Supplies.....	.....	\$53,848.54	.....	.....	.....	.....	.....	.....	.....	.....	.....	\$53,848.54
Materials.....	.....	8,357.93	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,357.93
Equipment.....	.....	4,298.20	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,298.20
Miscellaneous and Contingencies.....	.....	2,355.45	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,355.45
Construction and Repair (Gate Receipts).....	.....	.....	.....	.....	\$13,327.77	\$ 3,732.23	.....	.....	.....	.....	13,327.77	3,732.23
Contributions by the Society												
Maintenance.....	.....	.....	.....	.....	.....	.....	\$ 8,859.21	\$ 4,541.95	.....	.....	8,859.21	4,541.95
Administration.....	.....	.....	.....	.....	.....	.....	11,100.00	14,467.52	.....	.....	11,100.00	14,467.52
Purchase of Animals.....	.....	.....	.....	.....	.....	43,047.41	.....	.....	.....	.....	43,047.41	.....
Scientific Purposes.....	.....	.....	.....	.....	.....	.....	.....	.....	\$7,557.65	\$16,874.96	7,557.65	16,874.96
Heads and Horns Collection.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,191.93	.....	7,191.93
Heads and Horns Building.....	.....	.....	.....	.....	.....	50,888.65	.....	.....	.....	.....	50,888.65	.....
Insurance.....	.....	.....	.....	.....	.....	.....	.....	2,930.72	.....	.....	2,930.72	.....
Membership Expenses.....	.....	.....	.....	.....	.....	.....	.....	3,306.28	.....	.....	3,306.28	.....
Pension Contributions.....	.....	.....	.....	.....	.....	4,335.00	.....	3,665.00	.....	.....	8,000.00	.....
Paintings.....	.....	.....	.....	.....	.....	788.64	.....	.....	.....	.....	788.64	.....
Miscellaneous Expenditures.....	.....	.....	.....	.....	.....	.....	.....	3,537.70	.....	.....	3,537.70	.....
Aquarium: Maintenance by the City			\$47,677.10	\$11,706.68*							47,677.10	11,706.68
Repairs to Roof and Skylight ".....	.....	.....	.....	16,860.00	.....	.....	.....	.....	.....	.....	.....	16,860.00
Contributions by the Society												
Aquarium Alterations.....	.....	.....	.....	.....	.....	16,153.03	.....	.....	.....	.....	.....	16,153.03
Aquarium Specimens.....	.....	.....	.....	.....	.....	.....	.....	3,057.91	.....	.....	.....	3,057.91
Totals.....	\$195,757.93	\$68,860.12	\$47,677.10	\$28,566.68	\$13,327.77	\$118,944.96	\$19,959.21	\$33,748.49	\$7,557.65	\$24,066.89	\$284,279.66	\$275,945.73
Totals by Funds.....	\$264,618.05		\$76,243.78*		\$132,272.73		\$53,707.70		\$31,624.54		\$560,225.39	

*Does not include purchases to the amount of \$4,014.43 for which bills are pending payment.

STATEMENT OF FUNDS PROVIDED BY
THE VARIOUS CITY ADMINISTRATIONS FOR THE DEVELOPMENT AND
MAINTENANCE OF THE ZOOLOGICAL PARK AND AQUARIUM

FROM THE ORGANIZATION OF THE SOCIETY TO THE PRESENT

1896 to December 31, 1923

MAYOR	COMPTROLLER	Year	MAINTENANCE		CORPORATE STOCK ISSUES	
			Park	Aquarium	Park	Aquarium
Robert A. Van Wyck 1898-1901	Bird S. Coler 1898-1901	1899	\$30,000.00	.....	.....	.....
		1900	40,000.00	.....	\$125,000.00	.....
		1901	65,000.00	.....	300,000.00	.....
		1902	85,000.00	\$ 5,959.97	250,000.00	.....
Seth Low 1902-1903	E. M. Grout 1902-1903	1903	104,965.00	46,453.68	250,000.00	\$30,000.00
		1904	104,965.00	46,439.72	275,000.00	40,000.00
G. B. McClellan 1904-1909	E. M. Grout 1904-1906 Herman A. Metz 1907-1909	1905	134,965.00	44,968.50	275,000.00	.....
		1906	144,965.00	44,987.71	250,000.00	.....
		1907	141,558.75	44,183.87	100,000.00	.....
		1908	154,627.00	44,157.27	65,000.00	.....
		1909	162,325.00	45,971.44	10,000.00	.....
		1910	167,632.00	45,974.86	89,500.00	.....
W. J. Gaynor 1910-1913 Ardolph L. Kline 1913	W. A. Prendergast 1910-1913	1911	174,632.00	47,560.21	155,000.00	.....
		1912	182,365.00	46,597.08	.....	.....
		1913	191,925.00	47,335.62	.....	29,100.00
		1914	200,000.00	46,995.53	.....	.....
J. P. Mitchel 1914-1917	W. A. Prendergast 1914-1917	1915	200,000.00	46,991.66	21,425.00	.....
		1916	197,074.35	46,996.43	.....	.....
		1917	199,560.00	46,903.61	.....	.....
		1918	207,586.00	48,630.71	.....	.....
J. F. Hylan 1918 to date	C. L. Craig 1918 to date	1919	190,000.00	45,000.00	.....	.....
		1920	250,098.27	53,971.48	.....	.....
		1921	276,951.01	65,203.12	.....	.....
		1922	264,618.05	63,341.26	.....	25,000.00
		1923	264,515.00	59,226.00	.....	.....
Totals			\$4,135,327.32	\$1,033,849.73	\$2,165,925.00	\$124,100.00

Note 1 The appropriations for each year are granted by the Board of Estimate the previous year.

Treasurer's Reports

FOR THE YEAR ENDING DECEMBER 31, 1922

CORNELIUS R. AGNEW, *Treasurer*
22 William Street
New York City

GROUP I

Maintenance Fund

ZOOLOGICAL PARK ACCOUNT

RECEIPTS

Received from the City of New York on account of Park Maintenance Appropriation of \$266,937.44 for the year	\$252,258.32	
Due from the City on account of Park Maintenance Appropriation	12,359.73	
Unexpended balances reverting to the City.....	2,319.39	\$266,937.44
Deficit paid by the New York Zoological Society		
Shortage in City Maintenance Appropriation for 1922	\$3,999.88	
Maintenance of Heads and Horns Museum May 20 to December 31, 1922.....	1,758.59	5,758.47
		<u>\$272,695.91</u>

EXPENDITURES

Personal Service:

Maintenance of buildings and care of collections	\$88,087.30	
Maintenance and care of grounds.....	79,743.55	
General administration	28,285.67	\$196,116.52

Supplies:

Food for animals	\$34,028.71	
Fuel	16,844.64	
Fuel oil	49.80	
Office supplies	555.45	
Stationary and printing.....	811.46	
Drugs and medicines.....	171.80	
Medical and surgical supplies.....	40.66	
Disinfectants	236.70	
Janitors' supplies	273.96	
Motor vehicle supplies.....	733.33	
Ice	128.10	
Lubricating oils	49.50	
Nursery stock and seeds.....	119.22	
Miscellaneous supplies	1,205.21	\$55,248.54

Equipment:

Uniforms and wearing apparel.....	\$2,282.24	
Office furniture and equipment.....	78.03	
Motor vehicles and equipment.....	306.80	
Awnings and shades.....	33.90	
Janitors' equipment	352.03	
Mats and floor coverings.....	10.00	
Painters' equipment	85.56	
Rubber hose	202.50	
Tools and machinery.....	537.19	
Miscellaneous equipment	409.95	\$4,298.20

Materials:

Motor vehicle materials.....	\$251.59	
Bolts, nails and hardware.....	396.02	
Electrical materials	44.02	
Fencing and netting	188.95	
Glaziers' materials	127.10	
Lumber	1,549.88	
Paints and oils	1,675.50	
Plumbing materials	2,940.27	
Sand, cement and brick.....	420.63	
Steel and iron.....	406.75	
Miscellaneous materials	357.22	\$8,357.93

Contract or Open Order Service:

Apparatus and machinery repairs.....	\$111.66	
Harness and vehicle repairs.....	53.75	
Painting labels	39.00	
Plumbing repairs	1,806.00	
Sanitary service	130.00	
Miscellaneous repairs	20.93	
Motor vehicle repairs.....	117.35	
Electric service	2,729.35	
Gas service	78.55	
Telephone service	861.96	
Expressage and deliveries.....	147.36	\$6,095.91

Contingencies:

Medical attendance, animals.....	\$35.00	
Medical attendance, employees.....	163.00	
Miscellaneous expenses	61.42	259.42

Total expenditures	\$270,376.52	
Unexpended balances reverting to the City.....	2,319.39	
		\$272,695.91

AQUARIUM ACCOUNT

RECEIPTS

Received from the City of New York on Account of Aquarium Maintenance Appropriation of \$63,262.98 for the year.....	\$58,305.67
Due from the City on Account of Aquarium Maintenance Appropriation	942.88
Unexpended Balances Reverting to the City.....	370.14
Balance of Appropriation Pending Transfer by Board of Estimate..	3,644.29
	<hr/>
	\$63,262.98
Additional Appropriation Pending Transfer from the Park Department by Board of Estimate	\$448.42
Deficit Payable by New York Zoological Society.....	56.95
	<hr/>
	\$63,768.35

EXPENDITURES

Salaries and Wages	\$47,677.10
Forage and Veterinary Supplies	3,218.07
Fuel Supplies	4,786.51
Office Supplies	131.85
Laundry, Cleaning and Disinfecting Supplies	115.00
Refrigerating Supplies	176.52
General Plant Supplies	485.00
Office Equipment	17.95
Wearing Apparel	30.00
General Plant Equipment	749.70
General Plant Materials	422.89
Repairs and Replacements	404.88
Light, Heat and Power	4,666.79
Expressage and Deliveries	266.00
Telephone Service	159.95
Contingencies	90.00
	<hr/>
	\$63,398.21
Unexpended Balances Reverting to the City.....	370.14
	<hr/>
	\$63,768.35

The unexpended balance reverting to the City of \$370.14 is on the basis that the Board of Estimate acts favorably on an application for transfers between appropriations in the amount of \$4,092.71. If the Board of Estimate does not approve these transfers as between appropriations, the deficit payable by the New York Zoological Society will be increased from \$56.95 to \$4,149.66.

M. C. FENSTEMAKER, *Clerk.*

GROUP II

Endowment Fund

GENERAL ENDOWMENT ACCOUNT

Funds as of December 31, 1921:

Cash in bank	\$ 37,204.91	
Investments at cost.....	409,919.87	\$447,124.78

RECEIPTS

Estate of E. C. Converse.....	\$25,000.00	
Estate of Charles E. Rhinelanders.....	3,000.00	
Dr. John F. Erdmann.....	500.00	28,500.00
Life memberships		5,030.00
Profit on sale of bonds.....		498.29
		<u>\$481,153.07</u>

EXPENDITURES

No expenditures during 1922

Funds as of December 31, 1922:

Investments at cost (for details see list of securities)	\$477,445.15	
Uninvested balance	3,707.92	\$481,153.07
		<u>\$481,153.07</u>

SAGE ENDOWMENT ACCOUNT

Funds as of December 31, 1921:

Investments at acquired values.....	\$438,492.09
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RECEIPTS

Estate of Margaret Olivia Sage:

Cash	\$37,313.22	
Bonds at market value, February 1, 1922.....	65,236.25	
Stocks at market value, February 1, 1922.....	43,341.01	
Accrued interest on bonds to February 19, 1922.....	917.56	146,808.04

Profit on sale of securities bequeathed.....	7,550.27	
Profit on sale of bonds.....	15,751.08	
		<u>\$608,601.48</u>

EXPENDITURES

Heads and Horns Building Account (transfer).....	\$37,226.32	
Sage Construction Account (transfer).....	15,221.91	\$52,448.23

Funds as of December 31, 1922:

Investments at acquired values (for details see list of securities).....	\$549,672.20	
Uninvested balance	6,481.05	556,153.25
		<u>\$608,601.48</u>

GEORGE F. BAKER ENDOWMENT ACCOUNT

RECEIPTS

George F. Baker,	
U. S. A. Victory Liberty Bonds 3 $\frac{3}{4}$ %	\$100,000.00
	<hr/>
	\$100,000.00

EXPENDITURES

No expenditures during 1922

Funds as of December 31, 1922:

Investments at cost (for details see list of securities)	\$99,912.25	
Uninvested balance	87.75	\$100,000.00
	<hr/>	<hr/>
		\$100,000.00

GROUP III

Special Endowment Fund

CADWALADER ANIMAL ENDOWMENT ACCOUNT

Funds as of December 31, 1921:

Cash in bank.....	\$2,696.58	
Investments at cost.....	20,000.00	\$22,696.58

RECEIPTS

Interest on investments.....	1,000.00
	<hr/> \$23,696.58

EXPENDITURES

Purchase of Platypus.....	\$1,400.00
---------------------------	------------

Funds as of December 31, 1922:

Investments at cost (for details see list of securities)	\$20,000.00	
Uninvested balance	2,296.58	22,296.58
	<hr/>	<hr/> \$23,696.58

STOKES BIRD ENDOWMENT ACCOUNT

Funds as of December 31, 1921:

Cash in bank	\$558.54	
Investments at cost	5,056.46	\$5,615.00

RECEIPTS

Interest on investments	200.00
	<hr/> \$5,815.00

EXPENDITURES

No expenditures during 1922

Funds as of December 31, 1922:

Investments at cost (for details see list of securities)	\$5,056.46	
Uninvested balance	758.54	\$5,815.00
	<hr/>	<hr/> \$5,815.00

CARNEGIE PENSION ENDOWMENT ACCOUNT

Funds as of December 31, 1921:

Investments at cost.....	\$100,066.25
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Funds as of December 31, 1922:

Investments at cost (for details see list of securities)	\$100,066.25
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GROUP IV

Special Fund

ANIMAL ACCOUNT

Unexpended balance as of December 31, 1921:

Cash in bank	\$34,297.44	
Cash on hand	100.00	\$34,397.44

RECEIPTS

Morris Kinney (for purchase of Pigmy Elephant)...	\$3,000.00
Junior Auxiliary (for purchase of Giant Tapir).....	500.00

Receipts from park:

Privilege Department account 1922 receipts.....	20,000.00	
Sale of animals	650.20	
Checking	15.60	
Miscellaneous	41.00	24,206.80
		<hr/>
		\$58,604.24

EXPENDITURES

Purchase of animals:

Mammals	\$25,498.27	
Birds	11,260.66	
Reptiles	2,493.65	
Insects	21.60	\$39,274.18

Express and other charges.....	\$1,630.32	
Traveling and other expenses.....	742.91	2,373.23

Unexpended balance as of December 31, 1922:

Cash in bank	\$16,856.83	
Cash on hand	100.00	16,956.83
		<hr/>
		\$58,604.24

ART GALLERY ACCOUNT

Unexpended balance as of December 31, 1921.....	\$1,177.33
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RECEIPTS

Lispenard Stewart	2,000.00
	<hr/>
	\$3,177.33

EXPENDITURES

Oil paintings	\$600.00	
Miscellaneous expenses	188.64	\$788.64

Unexpended balance as of December 31, 1922.....	2,388.69
	<hr/>
	\$3,177.33

HEADS AND HORNS BUILDING ACCOUNT

Funds as of December 31, 1921:

Cash in bank	\$12,114.64	
Investments at cost	1,438.55	\$13,553.19

RECEIPTS

Sage Endowment Account (transfer).....	\$37,226.32	
Interest on investments.....	65.52	
Profit on sale of bonds.....	43.62	37,335.46
		<hr/>
		\$50,888.65

EXPENDITURES

On account of contract for construction of Heads and Horns Museum Building.....	\$28,586.52	
Additions to contract	20,050.99	
Architect's fees, etc.....	2,251.14	\$50,888.65
		<hr/>
		\$50,888.65

SAGE CONSTRUCTION ACCOUNT

Unexpended balance as of December 31, 1921.....	\$931.12
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RECEIPTS

Sage Endowment Account (transfer).....	15,221.91
	<hr/>
	\$16,153.03

EXPENDITURES

Aquarium alterations:		
Pumps and piping.....	\$11,625.31	
Low pressure heating plant.....	2,931.46	
Refrigerating compressor	1,338.26	
Pump and boiler room.....	258.00	\$16,153.03
		<hr/>
		\$16,153.03

IMPROVEMENT AND REPAIR ACCOUNT

Unexpended balance as of December 31, 1921.....	\$3,058.36
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RECEIPTS

Gate receipts	15,463.60
	<hr/>
	\$18,521.96

EXPENDITURES

Bird House cages	\$1,103.92	
Boiler repairs	3,311.64	
Boston Road Comfort Station.....	200.00	
Burrowing Rodent cages	1,562.72	
Eagle and Vulture Aviary.....	662.47	
Electrical repairs	400.00	
Fence repairs	1,500.00	
Guard rails	350.80	
Painting Fences, etc.	1,252.35	
Small Mammal cages.....	800.17	
Walk repairs	898.24	
Water Supply repairs	915.72	
Miscellaneous repairs	4,101.97	\$17,060.00
		<hr/>

Unexpended balance as of December 31, 1922.....	1,461.96
	<hr/>
	\$18,521.96

GROUP V

General Income Fund

Unexpended balance as of December 31, 1921..... \$15,180.00

RECEIPTS

Income from General Endowment.....	\$18,696.34	
Income from Sage Endowment.....	22,911.99	
Income from George F. Baker Endowment.....	1,939.04	
Interest on bank balances.....	1,662.47	
Annual Dues	22,070.00	
Sustaining Memberships	120.00	
American Museum of Natural History.....	400.00	
J. de L. Verplanck.....	10.00	67,809.84
		<hr/>
		\$82,989.84

EXPENDITURES

General office expenses.....	\$5,583.60	
Stationery, printing and office supplies.....	3,370.95	
Salary of Secretary	7,000.00	
Treasurer's office expenses	1,600.00	
Audit of accounts	1,000.00	
Legal expenses	2,500.00	
Annual and separate reports.....	4,512.97	\$25,567.52
		<hr/>
Annual Meeting expenses	\$1,019.57	
Reception expenses	1,197.25	
Preparation and mailing circulars.....	1,089.46	3,306.28
		<hr/>
Publication Account (transfer)	\$10,200.00	
Library Account (transfer)	1,100.00	11,300.00
		<hr/>
Zoological Park Account (transfer) 1921 Maintenance deficit	\$2,401.51	
Aquarium Account (transfer) 1921 Maintenance deficit	381.85	
Heads and Horns Building (transfer) 1922 Maintenance	\$1,758.59	
Special Maintenance (Zoological Park).....	5,914.78	
Special Maintenance (Aquarium)	2,944.43	
Aid to Employees	309.00	
Pension Fund Income Account (transfer).....	3,665.00	
Aquarium specimens	3,057.91	
Aquarium expenses	12.33	
Insurance (Aquarium)	797.61	
Insurance (Zoological Park)	2,133.11	
Miscellaneous expenses	3,216.37	26,592.49
		<hr/>
Total expenditures		\$66,766.29
In suspense (Architect's services for Aquarium)....		4,038.76
Unexpended balance as of December 31, 1922.....		12,184.79
		<hr/>
		\$82,989.84

GROUP VI

Scientific and Research Fund

PUBLICATION ACCOUNT

Unexpended balance as of December 31, 1921.....	\$1,983.60
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RECEIPTS

General Income Fund (transfer).....	\$10,200.00	
Sale of "Our Vanishing Wild Life".....	70.00	
Sale of "Tropical Wild Life in British Guiana"....	340.66	
Sale of Zoopathologica .....	.50	10,611.16
		<hr/> \$12,594.76

EXPENDITURES

Bulletin	\$6,876.61	
Zoologica	3,381.94	
Photographs and slides.....	2,021.91	\$12,280.46
		<hr/>
Unexpended balance as of December 31, 1922.....		314.30
		<hr/> \$12,594.76

TROPICAL RESEARCH ACCOUNT

Unexpended balance as of December 31, 1921.....	\$80.86
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RECEIPTS

George F. Baker	\$1,000.00	
Coleman du Pont	1,000.00	
George J. Gould	1,000.00	
Edward S. Harkness	1,000.00	
A. Barton Hepburn	1,000.00	
Anthony R. Kuser	1,000.00	
George D. Pratt	1,000.00	
Mortimer L. Schiff	1,000.00	
Frederic C. Walcott	1,000.00	
Harrison Williams	800.00	
Cleveland H. Dodge	500.00	
Dr. Lewis Rutherford Morris.....	500.00	
American Museum of Natural History.....	300.00	11,100.00
		<hr/> \$11,180.86

EXPENDITURES

Salaries	\$4,557.65	
Subsistence	1,059.85	
Traveling and other expenses.....	2,425.26	
Stationery and office supplies.....	268.40	
Laboratory supplies	1,161.95	
Laboratory expenses .....	.24	
Miscellaneous supplies	745.78	
Miscellaneous expenses	955.88	\$11,175.01
		<hr/>
Unexpended balance as of December 31, 1922.....		5.85
		<hr/> \$11,180.86

LIBRARY ACCOUNT

Unexpended balance as of December 31, 1921.....		\$15.88
RECEIPTS		
General Income Fund (transfer).....		1,100.00
		<hr/>
EXPENDITURES		\$1,115.88
Subscriptions to periodicals	\$146.92	
Books, pamphlets, etc.	218.16	\$365.08
		<hr/>
Express and other charges.....	\$12.06	
Miscellaneous expenses	600.00	612.06
		<hr/>
Unexpended balance as of December 31, 1922.....		138.74
		<hr/>
		\$1,115.88

HEADS AND HORNS COLLECTION ACCOUNT

Unexpended balance as of December 31, 1921.....		\$647.29
RECEIPTS		
Mortimer L. Schiff	\$3,000.00	
George F. Baker	1,000.00	
P. A. Rockefeller	1,000.00	
Ezra R. Thayer, In Memoriam.....	1,000.00	
Miss Mary Taber	500.00	
W. Redmond Cross	250.00	
Beekman Winthrop	250.00	
William Woodward	250.00	
Frank Hart	101.00	
A Friend	100.00	
John J. Paul	50.00	
Miss Emily Buch	25.00	7,526.00
		<hr/>
EXPENDITURES		\$8,173.29
Heads and Horns	\$4,490.78	
Express and other charges.....	271.66	
Miscellaneous expenses	2,429.49	\$7,191.93
		<hr/>
Unexpended balance as of December 31, 1922.....		981.36
		<hr/>
		\$8,173.29

H. R. MITCHELL, *Chief Clerk.*
January 1, 1923.

CORNELIUS R. AGNEW, *Treasurer.*

AQUARIUM

Corporate Stock, R. D. P. No. 21

Replacing and renewal of existing roof and skylights of the New York Aquarium.

RECEIPTS

Appropriation of Board of Estimate and Apportionment, June 2, 1922. \$25,000.00

EXPENDITURES

Contract awarded through Department of Parks to Sobel and Kraus,
December 7, 1922..... \$16,860.00
Balance to revert to the City of New York..... 8,140.00

\$25,000.00

January 1, 1923.

MORRIS MAYER, *Bookkeeper,*
Department of Parks, Manhattan.

SECURITIES OWNED BY THE NEW YORK ZOOLOGICAL SOCIETY

December 31, 1922

LISTED AT COST OR BEQUEST VALUE

Endowment Fund

GENERAL ENDOWMENT ACCOUNT

Bonds as follows:

\$50,000	American Telephone & Telegraph Co., Collateral Trust 4% Due July 1, 1929.....	\$45,000.00
4,000	Baltimore & Ohio R. R. Co., 1st Mtge. 4%. Due July 1, 1948	3,120.00
3,000	Central R.R. Co. of New Jersey, Gen. Mtge. 5%. Due July 1, 1987	3,031.25
22,000	Chicago Milwaukee & Pudget Sound Ry. Co. 1st Mtge. Series A, 4%. Due January 1, 1949.....	20,775.00
20,000	Chicago & Northwestern Ry. Co., Gen. Mtge. 4%. Due November 1, 1987	19,750.00
5,000	Colorado & Southern Ry. Co., 1st Mtge. 4%. Due Feb- ruary 1, 1929	4,750.00
9,000	Lehigh Valley Terminal Ry. Co., 1st Mtge. 5%. Due October 1, 1941	9,090.00
75,000	P. Lorillard Co. 5%. Due August 1, 1951.....	72,775.00
5,000	Michigan Central R.R. Co., Michigan Air Line R.R., 1st Mtge. 4%. Due January 1, 1940.....	4,950.00
20,000	Milwaukee Sparta & Northwestern Ry. Co., 1st Mtge. 4%. Due March 1, 1947.....	18,900.00
5,000	Missouri & Illinois Bridge & Belt R.R. Co., 1st Mtge. 4%. Due 1, 1951	5,000.00
1,000	Morris & Essex R.R. Co., 1st Rfdg. Mtge. 3½%. Due December 1, 2000	876.25
25,000	New York & Westchester Lighting Co., Gen. Mtge. 4%. Due July 1, 2004, 100 year	19,750.00
25,000	Oregon Short Line R.R. Co. 1st Cons. 5%. Due July 1, 1946	25,990.00
10,000	St. Paul Minneapolis & Manitoba Ry. Co. Cons. Mtge. 4%. Due July 1, 1933.....	9,800.00
47,000	Union Pacific R.R. Co. 1st Mtge. R.R. & Land Grant 4%. Due July 1, 1947	44,058.00
12,500	United Electric Rys. Co. Gen. & Rfdg. Mtge., Series B, 4%. Due January 1, 1951	10,625.00
10,000	United Electric Rys. Co. Prior Lien, Series B, 4%. Due January 1, 1946	8,500.00
7,000	United New Jersey R.R. & Canal Co. Gen. Mtge. 4%. Due March 1, 1944	6,230.00
50,000	United States Steel Corp. 10/60 Yr. Skg. Fund 5%. Due April 1, 1963	51,862.50
20,000	Vandalia R.R. Co. Cons. Mtge. Series B, 4%. Due November 1, 1957	19,400.00

Stocks as follows:

10,000	New York Lackawanna & Western Ry. Co. Cap.....	9,615.00
54,600	Standard Oil Co. of New Jersey Pre.....	61,472.15
2,500	United Electric Rys. Co. Cap.....	2,125.00

 \$477,445.15

SAGE ENDOWMENT ACCOUNT

Bonds as follows:

\$ 6,000	Baltimore & Ohio R.R. Co. Prior Lien 3½%. Due July 1, 1925	\$4,860.00
4,000	Baltimore & Ohio R.R. Co. So. Div. Gold 3½%. Due July 1, 1924	3,490.00
6,000	Buffalo General Electric Co. 1st Rfdg. Mtge. 5%. Due April 1, 1939	5,640.00
7,000	Central New England Ry. Co. 1st Mtge. 50-year 4%. Due January 1, 1961	5,675.00
50,000	Central Pacific Ry. Co. 1st Rfdg. 4%. Due August 1, 1949	43,983.75
50,000	Chicago Burlington & Quincy R.R. Co. 1st & Rfdg., Series A, 5%. Due February 1, 1971	50,130.00
4,000	Chicago Rock Island & Pacific Ry. Co. 1st & Rfdg. Gold 4%. Due April 1, 1934	3,070.00
6,000	Erie R.R. Co. Prior Lien 4%. Due January 1, 1996	3,015.00
50,000	Indiana Steel Co. 1st. Mtge. 5%. Due May 1, 1952	50,023.50
21,000	Interborough Rapid Transit Co. 1st & Rfdg. 5%. Due January 1, 1966	13,413.75
50,000	Liggett & Myers Tobacco Co. Gold 5%. Due August 1, 1951	49,262.50
10,000	New Brunswick Southern Ry. Co. 1st Mtge. 30-year Gold 3%. Due January 1, 1933	8,100.00
4,000	New York Central R.R. Co. Cons. Mtge. Series A 4%. Due February 1, 1998	3,165.00
50,000	New York Central R.R. Co. Rfdg. & Imp., Series C, 5%. Due October 1, 2013	47,250.00
4,000	New York State Rys. 50-year, 1st Cons. Gold, Series A. 4½%. Due November 1, 1962	2,645.00
50,000	New York Telephone Co. 1st & Gen. Mtge. Skg. Fund 4½%. Due November 1, 1939	43,326.50
50,000	Northwestern Bell Telephone Co., Series A, 7%. Due February 1, 1941	53,441.25
10,000	Oregon Washington R.R. & Nav. Co. 1st & Rfdg. Mtge., Series A, 4%. Due January 1, 1961	6,500.00
5,000	Rochester Ry. & Light Co. Cons. Mtge. 5%. Due July 1, 1954	4,475.00
3,000	St. Louis & Southwestern Ry. Co. 1st Cons. Gold, 4%. Due June 1, 1932	2,130.00
6,000	Schenectady Ry. Co. 1st. Mtge. 30-year, Series A Gold, 5%. Due March 1, 1946	3,690.00
7,000	Washington Terminal Co. 1st. Mtge. 3½%. Due February 1, 1945	4,830.00

Stocks as follows:

20,000	Atehison Topeka & Santa Fe Ry. Co. Pre.	14,525.00
5,200	Bankers Trust Co. Cap.	19,500.00
5,100	Chicago & Northwestern Ry. Co. Com.	3,190.69
5,100	Illinois Central R.R. Co. Cap.	5,041.47
7,200	Pennsylvania R.R. Co. Cap.	4,887.00
8,800	Pullman Co. Cap.	9,636.00
45,400	Standard Oil Co. of New Jersey Pre.	45,701.91
10,000	Union Pacific R.R. Co. Pre.	6,237.50
25,000	United States Steel Corp. Pre.	27,359.38
3,800	Western Union Telegraph Co. Cap.	3,477.00

\$549,672.20

GEORGE F. BAKER ENDOWMENT ACCOUNT

\$50,000	National Tube Co. 1st Mtge. 5% Bonds. Due May 1, 1952..	\$49,899.75
50,000	Pennsylvania R.R. Co. Gen. Mtge., Series B 5% Bonds. Due December 1, 1968	50,012.50
		<hr/> \$99,912.25

Special Endowment Fund

CADWALADER ANIMAL ENDOWMENT ACCOUNT

\$20,000	Illinois Central R.R. & Chicago St. Louis & New Orleans R.R. Co. Jt. 1st Rfdg. Mtge., Series A 5% Bonds. Due December 1, 1963	\$20,000.00
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STOKES BIRD ENDOWMENT ACCOUNT

\$ 5,000	Illinois Central R.R. Co. Rfdg. Mtge. 4% Bonds. Due November 1, 1955	\$5,056.46
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CARNEGIE PENSION ENDOWMENT ACCOUNT

Bonds as follows:

\$25,000	Chicago & Northwestern Ry. Co. Gen. Mtge. 4%. Due November 1, 1987	\$23,687.50
25,000	Illinois Central R.R. Co. Rfdg. Mtge. 4%. Due November 1, 1955	23,062.50
25,000	Lehigh Coal & Nav. Co. Cons. Mtge. Skg. Fund Series A, 4½%	24,875.00
1,000	Michigan Central R.R. Co. Gold Bond 3½%. Due May 1, 1952	817.50
5,000	Morris & Essex R.R. Co. 1st Rfdg. Mtge. 3½%. Due December 1, 2000	4,373.75
25,000	Philadelphia & Baltimore Central R.R. Co. 1st Mtge. 4%. Due November 1, 1951	23,250.00
		<hr/> \$100,066.25

Pension Fund Income Account

Uninvested balance as of December 31, 1921:

Deposited with The Farmers' Loan & Trust Co.....	\$4,846.02	
Deposited with Corn Exchange Bank (Bronx).....	197.65	\$5,043.67
Investments at cost.....		72,845.32
		<hr/>
		\$77,888.99

RECEIPTS.

Interest on Bank Balances.....		143.29
Interest on Bond Investments.....		3,281.14
Profit from sale of Securities.....		1,845.90
Dues collected from Zoological Society employees.....		4,140.95
Contributed by New York Zoological Society:		
Interest on Carnegie Endowment investments.....	\$4,335.00	
General Income Fund (transfer).....	3,665.00	8,000.00
		<hr/>
		\$95,300.27

EXPENDITURES.

Physical examinations	20.00	
Refund of dues to resigning members.....	303.80	
Pension payments	4,423.50	
Clerical services and printing.....	323.40	\$5,070.70
Funds as of December 31, 1922:		

Investment at cost:

\$5,000 I. C. and St. L. & N. O. Joint 5% Bonds....	\$4,837.50	
5,000 I. C. and St. L. & N. O. Joint 5% Bonds....	4,981.25	
5,000 M. S. M. & Atlantic Ry. first 1926 4% Bonds..	4,868.75	
4,000 B. & O. (P. L. E. & W. Va.) Ry. first 4% Bonds	3,520.00	
5,000 Twenty-third St. Imp. & Ref. 1962 5% Bonds...	4,825.00	
6,000 B. & O. Ry. first 1948 4% Bonds.....	4,680.00	
7,000 Chicago Milwaukee St. Paul 1932 4½% Bonds..	5,368.75	
4,000 C. B. & Q. R. R., Ill. Divn., 1949 3½% Bonds..	2,980.00	
3,000 Union Pacific R. R. first 1947 4% Bonds.....	2,486.25	
2,000 N. Y. Cent. R. R. (Lake Shore Col.) 1998 3½% Bonds		1,300.00
5,000 Oregon Short Line Ry. 1946 5% Bonds.....	4,945.00	
17,000 Mich. Central R. R. first 1952 3½% Bonds....	13,778.00	
2,000 Mich. Central R. R. first 1952 3½% Bonds....	1,638.00	
9,000 B. & O. (P. L. E. & W. Va.) Ry. 4% 1941 Ref. Bonds		6,986.25
20,000 Liggett & Meyers Tobacco Co. 5% 1951 Bonds	19,600.00	\$86,794.75
Uninvested balance:		
Deposited with Farmers' Loan & Trust Co.....	\$3,366.92	
Deposited with Corn Exchange Bank (Bronx).....	67.90	3,434.82
		<hr/>
		\$95,300.27

H. R. MITCHELL,

Asst. to Treasurer in Charge of Pensions.

CORNELIUS R. AGNEW,

Treasurer.

January 1, 1923.

MARWICK, MITCHELL & CO.
ACCOUNTANTS AND AUDITORS
79 WALL STREET
NEW YORK

Auditors' Certificate

We have audited the books and accounts of the New York Zoological Society and of the "Carnegie Pension Fund Income Account" for the year ended December 31, 1922, and certify that the foregoing schedules are in accordance with the books, and that, in our opinion, they correctly record the transactions relating to the funds of the Society and the "Carnegie Pension Fund Income Account" for the year 1922, and the condition of the funds as at December 31, 1922.

The subscriptions, donations and dues reported as received and the income from investments have been properly accounted for, and the securities and cash on hand at December 31, 1922, as shown in the accounts of the Funds presented herewith, have been checked and found in order. Satisfactory vouchers have been produced for all expenditures.

40 Exchange Place, New York
April 14, 1923

MARWICK, MITCHELL & CO.
Chartered Accountants.

Report of the Auditing Committee
OF THE
NEW YORK ZOOLOGICAL SOCIETY

To the President and Board of Managers
of the New York Zoological Society:

Dear Sirs:

We beg to report we have examined the annual audit of the books and accounts of the New York Zoological Society for the year ending December 31, 1922, as made by Messrs. Marwick, Mitchell & Company, Chartered Accountants, and herewith submit the same to you as a complete and satisfactory audit of said books and accounts, including the Carnegie Pension Fund and the Pension Fund and the Pension Fund Income Account, all expenditures and receipts of the various accounts being clearly set forth, and it appearing that the cash on hand and at the various depositories has been verified and found correct, and all securities in which the funds of the Society are invested have been examined and found as reported.

Expenditures made through the Park Department of the City of New York have not been verified by this audit as such moneys have not passed through the hands of this Society, but are in due course checked and verified by the Comptroller of the City.

Respectfully submitted,

W. W. NILES, *Chairman*,
W. REDMOND CROSS.

SUBSCRIPTIONS TO THE ENDOWMENT FUNDS OF THE
NEW YORK ZOOLOGICAL SOCIETY

GENERAL ENDOWMENT ACCOUNT

E. C. Converse	\$50,000.00
Jacob H. Schiff	50,000.00
Maria DeWitt Jesup	25,500.00
George F. Baker	25,000.00
Cleveland H. Dodge	25,000.00
Samuel Thorne	25,000.00
J. P. Morgan	20,000.00
Lispenard Stewart	12,500.00
Frank W. Kitching	10,329.16
Edward S. Harkness	10,000.00
James J. Hill	10,000.00
Henry Iden	10,000.00
Ogden Mills	10,000.00
Levi P. Morton	10,000.00
Percy R. Pyne	10,000.00
John D. Rockefeller, Jr.	10,000.00
Edward Russ	10,000.00
Phoebe Anna Thorne	10,000.00
Mortimer L. Schiff	6,000.00
Abram G. Nesbitt	5,500.00
John D. Archbold	5,000.00
Samuel P. Avery	5,000.00
Frederick G. Bourne	5,000.00
Robert S. Brewster	5,000.00
John L. Cadwalader	5,000.00
Andrew Carnegie	5,000.00
Hugh J. Chisholm	5,000.00
George C. Clark	5,000.00
C. F. Dieterich	5,000.00
George J. Gould	5,000.00
M. Archer Huntington	5,000.00
George W. Perkins	5,000.00
Nelson Robinson	5,000.00
F. K. Sturgis	5,000.00
Henry A. C. Taylor	5,000.00
Mrs. Frederick F. Thompson ..	5,000.00
Emily Trevor	5,000.00
Charles E. Rhinelanders	4,000.00
Serena Rhinelanders	2,500.00
Grant B. Schley	2,500.00
<i>Carried Forward</i>	\$438 829.16

Subscriptions to the Endowment (*Continued*).

<i>Brought Forward</i>	\$438,829.16
Mrs. Finley J. Shepard	1,325.00
Dr. Walter B. James	1,000.00
Emma C. Jones	1,000.00
Jacob Langeloth	1,000.00
John A. Roebling	1,000.00
F. Augustus Schermerhorn	1,000.00
C. N. Bliss	500.00
Mrs. A. D. Juillard	500.00
Dr. John F. Erdmann	500.00
Mrs. Andrew Carnegie	250.00
Mrs. Wm. B. Osgood Field.....	250.00
H. C. von Post	250.00
Life Memberships and Various Subscriptions.....	33,213.30
Profit on Sale of Bonds	535.61
	<hr/>
	\$481,153.07

SAGE ENDOWMENT ACCOUNT

Estate of Margaret Olivia Sage.....	\$636,318.87
Profit on Sale of Securities.....	26,848.75
	<hr/>
	\$663,167.62
Transfers to Sage Construction Account.....	\$69,788.05
Transfers to Heads and Horns Building Account.....	37,226.32
	<hr/>
Balance, December 31, 1922	\$556,153.25

GEORGE F. BAKER ENDOWMENT ACCOUNT

George F. Baker	\$100,000.00
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Special Endowment Fund

Andrew Carnegie (Pension)	\$100,000.00
John L. Cadwalader (Animal)	20,000.00
Caroline Phelps Stokes (Bird)	5,000.00

December 31, 1922.

CONTRIBUTIONS TO SPECIAL FUNDS OF THE NEW YORK ZOOLOGICAL SOCIETY

Includes all contributions of \$5,000 and over, and donations
to the original Park Improvement Fund of \$250,000.00.

Andrew Carnegie	\$31,000.00
Jacob H. Schiff	22,300.00
Samuel Thorne	18,950.00
George F. Baker	18,500.00
George J. Gould	15,300.00
John D. Rockefeller	15,000.00
Mortimer L. Schiff	14,140.00
E. C. Converse	14,000.00
Cleveland H. Dodge	13,375.00
George D. Pratt	13,000.00
Percy R. Pyne	11,450.00
John D. Archbold	10,100.00
Mrs. Andrew Carnegie	10,000.00
Edward S. Harkness	10,000.00
Mrs. Frederick F. Thompson	10,000.00
Lispensard Stewart	9,250.00
William Rockefeller	9,000.00
Levi P. Morton	8,500.00
Charles F. Dieterich	7,800.00
Charles T. Barney	7,500.00
Robert S. Brewster	7,500.00
F. Augustus Schermerhorn	7,500.00
Cornelius Vanderbilt	7,500.00
Anthony R. Kuser	7,200.00
C. Ledyard Blair	6,750.00
A. Barton Hepburn	6,500.00
Mrs. Finley J. Shepard	6,400.00
John Cadwalader	6,200.00
Oliver H. Hayne	6,000.00
Henry A. C. Taylor	6,000.00
William K. Vanderbilt	6,000.00
William C. Whitney	6,000.00
Nelson Robinson	5,900.00
John S. Barnes	5,750.00
Frederick G. Bourne	5,500.00
J. P. Morgan	5,500.00
Emerson McMillan	5,280.00
Oswald Ottendorfer	5,250.00
William D. Sloane	5,250.00
Edward J. Berwind	5,000.00
William E. Dodge	5,000.00
Robert Goelet	5,000.00
C. P. Huntington	5,000.00
Mrs. John B. Trevor	5,000.00
Mrs. Antoinette E. Wood	5,000.00

\$117,145.00

LIST OF ACCESSIONS BY THE
New York Zoological Society

AT THE ZOOLOGICAL PARK

1922

BY GIFT.

- ALLEN, DR. A. A., Ithaca, N. Y.:
Evening Grosbeaks (2 specimens).
- ALUGA, ALEJANDRO, New York City:
South American Opossum.
- AMERICAN MUSEUM OF NATURAL HISTORY, New York City:
3 Bahama Iguanas, 1 West Indian Iguana, 3 Rhinoceros Iguanas. Total, 7 specimens.
- ANDERSON, S., New York City:
Purple Gallinule.
- ANNEMANN, C. C., Shinglehouse, Pa.:
2 Banded Rattlesnakes, 1 Striped Snake.
- ATLANTIC FRUIT COMPANY, New York City:
Cuban Boa.
- AUMULLER, MRS. I., New York City:
White-Throated Sapajou.
- BAER, B. N., New York City:
Murine Opossum.
- BAILEY, ROBERT E., Nanuet, N. Y.:
Red-Shouldered Hawks (2 specimens).
- BARBEHENN, HARRY E., Jersey City, N. J.:
American Sparrow Hawk.
- BARNES, M. S., East Meredith, N. Y.:
Cuban Amazon.
- BEACH, WILLIAM N., New York City:
Alaskan Brown Bear Cubs (2 specimens).
- BOEHM, WALTER N., New York City:
Opossum.
- BOOTH, FRANK D., Clearwater, Fla.:
Diamond-Back Rattlesnake.
- BRINKMAN, CARLYLE K., Bradford, Pa.:
Yellow-Thighed Caique.
- BROWN, MRS. WILLIAM, Hackensack, N. J.:
Canaries (4 specimens).
- BUHLER, MRS. A., New York City:
Macaque Monkey.
- BULLARD, GENERAL R. L., Governor's Island, N. Y.:
Opossum.
- BURCHANS, M. J., New York City:
Yellow-Headed Amazon.
- CARTER, AUGUST H., Brooklyn, N. Y.:
Opossum.

- CARVER, MISS ELEANOR N., East Orange, N. J.:
Variable Squirrel.
- CASTELLANO, R. S. L., New York City:
Boa Constrictor.
- CERNEY, MRS. JOHN F., Stamford, Conn.:
Green Monkey.
- COCHRANE, LE S., S. S. *Maraval*, Brooklyn, N. Y.:
South American Opossum.
- COHEN, MORRIS, New York City:
Raccoon.
- COLE, EDWARD, Sheffield, Mass.:
Albino Rattlesnake.
- COLLEONI, EUGENE, New York City:
Striped Snake.
- COLLINS, J., New York City:
Ring-Neck Pheasant.
- CONKLIN, ROMAINE, Belmar, N. J.:
Raccoon.
- CONTRERAS, LIMON, New York City:
White-Nosed Coati.
- CORN, BEN, INC., New York City:
Muskrats (2 specimens).
- COSTAIN, MISS GRACE, Scarsdale, N. Y.:
Roseate Cockatoo.
- CRAMER, C. WILLIAM, Morgantown, W. Va.:
4 Copperhead Snakes, 1 Banded Rattlesnake.
- CRIMMINS, CYRIL, New York City:
41 Canaries, 2 Gray Java Sparrows, 1 White Java Sparrow, 3 undulated
Grass Parrakeets, 1 Yellow Grass Parrakeet, 9 Brantlings, 3 Eur Siskins,
1 Bengalee, 1 Lesser Redpoll, 2 Strawberry Finches, 4 Spice Mannikins.
Total, 68 specimens.
- CROCKER LABORATORY, COLUMBIA UNIVERSITY, through Mrs. S. W. Wood, N. Y. C.:
3,123 White Rats, 2,256 White Mice.
- CROMPTON, GEORGE R., Ridgewood, N. J.:
Opossum.
- CULLEN, J. W., Superintendent Overton Park Zoo, Memphis, Tenn.:
Canebrake Rattlesnake (4 specimens).
- CURTIS, MRS. A. A., New York City:
Saw-Whet Owl.
- CURTIS, J. OLIN, Hackettstown, N. J.:
Banded Rattlesnake.
- DAKIN, GEORGE, New York City:
White-Faced Sapajou.
- DALRYMPLE, MISS E. R., Brooklyn, N. Y.:
Troupial.
- DAVIDSON, MISS E. L., Long Island City, N. Y.:
Domestic Rabbits (4 specimens).
- DAVIES, A. B., Warren, Pa.:
Raccoon.
- DELANZA, THOMAS, New York City:
Cat Bird.
- DEUTSCH, MISS MARIE, New York City:
Satinette Pigeon.
- DEVILLAVERDE, E. C., Interlaken, N. J.:
Marmoset.
- DORSEY, JOHN H., New York City:
Blue Heron.

- DURLEWANGER, MRS. CATHERINE, Brooklyn, N. Y.:
 20 Garter Snakes, 5 Ring-Necked Snakes, 1 DeKay's Snake, 2 Milk Snakes,
 1 Green Snake, 1 Ribbon Snake. Total, 30 specimens.
- ECKERT, E. J., New York City:
 Cuban Amazon.
- ELLIS, N., Palisades Park, N. J.:
 Box Tortoise.
- ELMENDORF, DR. TEN EYCK, New York City:
 European Pond Turtles (2 specimens).
- ENGEL, PAUL J., JR., New York City:
 Opossum.
- ERICKSON, G., New York City:
 Red-Throated Loon.
- EVANDER CHILDS HIGH SCHOOL, through PROFESSOR PAUL B. MANN, New York City:
 2 Painted Turtles, 1 Wood Turtle.
- FABEL, J. K., New York City:
 Redstart.
- FAGAN, C. L., Rahway, N. J.:
 White-Crowned Pigeon.
- FANTON, WALTER F., Danbury, Conn.:
 Raccoons (3 specimens).
- FENNO, H. A., Boston, Mass.:
 South American Boa.
- FORSON, JAMES P., Garrison, N. Y.:
 Spotted Salamanders (2 specimens).
- FURRELLE, F., New York City:
 Troupial.
- GILLAM, ARTHUR L., Flushing, L. I.:
 1 Rattlesnake, 1 Blacksnake, 1 Hog-Nosed Snake, 15 Copperhead Snakes,
 1 Water Snake, 1 Milk Snake, 1 Fence Swift, 1 Wood Turtle, 1 Sun
 Bittern. Total, 23 specimens.
- GINSBERG, E., New York City:
 Box Tortoise.
- GLEIM, MISS MARIE S., Hot Springs, Va.:
 Horned Owl.
- GRAF, FRANK H., San Bernardino, Calif.:
 Pacific Rattlesnakes (4 specimens).
- GRANT, NORMAN, New York City:
 Yellow-Naped Amazon Parrot.
- GREENWOOD, MRS. IDA, New Rochelle, N. Y.:
 Black Spider Monkey.
- GRIEST, R. W., Malta, Ohio:
 Great Horned Owl.
- HAAGNER, DR. A. K., Director National Zoological Gardens of South Africa,
 Pretoria, Transvaal:
 1 Spring Hare, 2 Puff Adders, 2 Speckled Pigeons. Total, 5 specimens.
- HAAAS, DR. SIDNEY N., Peekskill, N. Y.:
 Hog-Nosed Snake.
- HAMMOND, DR. FREDERICK P., New York City:
 Woodchuck.
- HARE, CHANNING W., Forest Hills, L. I.:
 South American Boa.
- HAUPT, HERMAN, JR., East Setauket, L. I.:
 Opossum.

- HEXOCK, LOUIS, New York City:
5 Blue-Shouldered Blue Tanagers, 1 Brazilian Silver-Beak Tanager.
- HENSCHEL, MRS. CHARLES J., Arlington, N. J.:
White-Faced Sapajou.
- HERPART, RICHARD, New York City:
Screech Owl.
- HERRERA, PROFESSOR ALFONSO L., Mexico City, Mexico:
1 Mexican Iguana, 1 Desert Tortoise.
- HIMMELSBACH, MISS MARIE, New York City:
Canaries (2 specimens).
- HIRSCH, MRS. MARY, New York City:
Woodcock.
- HOCKEY, MRS. H. G., New York City:
Green Monkey.
- HOLMES, CHRISTIAN R., New York City:
Mongoose Lemur.
- HOWARD, M. H., Newark, N. J.:
5 Strawberry Finches, 1 Red-Headed Gouldian Finch, 1 Black-Headed Finch.
Total, 7 specimens.
- HUG, MRS. A., New York City:
1 Cotton-Headed Marmoset, 1 Green Monkey.
- HUNN, ARCHIE B., and LEYDEN, ROBERT, New Rochelle, N. Y.:
Alligators (2 specimens).
- HUNTLEY, MRS., Tuckahoe, N. Y.:
Vervet Monkey.
- HURD, MISS A. G., Brooklyn, Conn.:
Strawberry Finches (2 specimens).
- IBBEKEN, A. G., New York City:
Skunk.
- ILLAVA, MRS. KARL, Tuckahoe, N. Y.:
Venezuelan Screech Owl.
- JACKSON, MRS. D. W., Milbrook, N. Y.:
Alligator.
- JACOBSON, MRS. A., New York City:
Kinkajou.
- JEFFERY, MRS. R. G., New York City:
Screech Owl.
- JONASSEN, CAPTAIN EDWARD, Brooklyn, N. Y.:
Mexican Deer Fawn.
- JOSEPH, ELLIS S., Sydney, Australia:
8 Cherry Finches, 3 Kangaroo Rats, 1 Diamond Snake, 1 Princess of Wales
Parakeet, 2 Rough-Leg Hawks. Total, 15 specimens.
- KAPLAN, GEORGE, New York City:
Saw-Whet Owl.
- KARIG, MISS PATRICIA, Newark, N. J.:
Ocelot.
- KEPPLER, MASTER RICHARD, Elizabeth, N. J.:
4 Alligators, 1 Painted Turtle.
- KINNEY, MORRIS, Butler, N. J.:
African Pygmy Elephant.
- KIPPAN, MISS ETHEL R., Brooklyn, N. Y.:
Red-Crested Cardinal.
- KIRSTEN, GEORGE, Morsemere, N. J.:
Diamond-Back Terrapin.
- KLEEHAMMER, B., Peekskill, N. Y.:
Copperhead Snake.

- KORTH, ARTHUR, New York City:
Tovi Parrakeet (2 specimens).
- KUEBLER, MRS. K., New York City:
Guinea Pigs (10 specimens).
- LAMM, JULIUS, New York City:
Broadwing Hawks (2 specimens).
- LAWLER, J., New York City:
5 Muskrats, 2 Opossums.
- LEVENBERG, MRS. IDA, New York City:
Northern Flicker.
- LEWIS, H. D., New York City:
Green Parrottet.
- LEYDEN, ROBERT, and HUNN, ARCHIE B., New Rochelle, N. Y.:
Alligators (2 specimens).
- LITTLE, JACK K., New York City:
Alligators (4 specimens).
- LOSEE, MISS ALICE A., Southampton, N. Y.:
Barbary Turtle Dove.
- LOW, MRS. FRED, Brooklyn, N. Y.:
Tovi Parrakeet.
- LUDY, CHANNING A., Long Island City, N. Y.:
Northern Flicker.
- McCONNELL, I. W., New York City:
Copperhead Snake.
- McDERMOTT, MRS. C. M., Bergenfield, N. J.:
Alligator.
- McILVAINE, WILLIAM J., New York City:
Milk Snake.
- MABEE, MRS. JOHN W., Paterson, N. J.:
Yellow-Cheeked Amazon.
- MACFARLANE, A. S., Jacksonville, Fla.:
Coral Snake.
- MACKAY, MISS A. B., New York City:
Troupial.
- MANNHARDT, PROFESSOR ALFRED, New York City:
Soft-Shelled Turtle.
- MARSHALL, C., New York City:
Golden Agouti.
- MARSHALL, T. A., New York City:
Horned Lizards (4 specimens).
- MENIER, SENATOR GASTON, Paris, France:
1 Female Black Bear, 2 Black Bear Cubs.
- MERVILLE, MRS. NIOBE, New York City:
Tovi Parrakeet.
- MILLER, J. H., New York City:
Roseate Cockatoo.
- MOOREPARK, MR. and MRS. CARTON, New York City:
Opossums (2 specimens).
- MCCOREPARK, HOWARD, New York City:
Hog-Nosed Snake.
- MOROSINI, MISS GUILIA P., Riverdale-on-Hudson, N. Y.:
1 Gray Squirrel, 1 Opossum.
- MURRAY, MRS. J. J., New York City:
European Goldfinch.
- MYERS, GEORGE, Jersey City, N. J.:
Blacksnake.

NAEGELEN, JOSEPH, New York City:

1 Tree Boa, 1 Tree Viper, 1 Bush Snake, 1 South American Boa, 1 Rat Snake.
Total, 5 specimens.

NATURE CLUB, THE, Forest Hills, L. I.:
Woodehuck.

NEW YORK AQUARIUM, New York City:

80 European "Fire" Salamanders, 49 Diamond-Back Terrapin.

O'CONNOR, W. A., Short Hills, N. J.:
Opossum.

OLIVE, GEORGE A., S. S. *Almaga*, New York City:
South American Crocodile.

OLSEN, A. R., Brooklyn, N. Y.:
Moustache Monkey.

OSBORN, HENRY FAIRFIELD, JR., New York City:
Screech Owl.

PARDOE, DR. J. B., Bound Brook, N. J.:
Box Tortoise.

PLESISCY, JOHN, Darien, Conn.:
Red Fox.

REISINGER, WILLIAM, New York City:
Marjay Cat.

ROBBINS, BYRON B., New York City:
Marmoset.

ROHEER, DR. C. C., New York City:
Red Fox.

ROSS, EDWARD F., Yonkers, N. Y.:
Opossum.

ROTTENER, FRED, Astoria, L. I.:
Canaries (17 specimens).

RUSSELL, RICHARD H., Boston, Mass.:

2 Copperhead Snakes, 1 Garter Snake, 1 Ring-Neck Snake, 1 Blacksnake.
Total, 5 specimens.

SARGENT, A. W., New York City:
Selater Euphonias (3 specimens).

SATTERLEE, MRS. H. I., New York City:
Moriche Oriole.

SAUERMANN, WILLIAM, New York City:
Chaffinch.

SAUERWEIN, LEO, New York City:
Canary.

SCHENCK, ROY W., Scarsdale, N. Y.:
Troupials (3 specimens).

SCHILLER, M., New York City:
Raccoon.

SEBBULT, MRS. G., New York City:
Canary.

SEIDLITZ, MRS. OLGA, New York City:
White-Faced Sapajou.

SIEGAL, I., New York City:
Red-Crested Cardinal.

SLADE, MASTER EDWARD J., New York City:
Barn Owl.

SLASEY, FRANK, New York City:
Chaffinch.

- SLOAN, HAROLD OLCOTT, Larchmont, N. Y.:
Coati Mundis (2 specimens).
- SNAKE KING, W. A., Brownsville, Texas:
Young Rattlesnakes (15 specimens).
- SPENCE, MISS CLARA B., New York City:
1 European Goldfinch, 1 Canary.
- STANDFAST, E. C., Flushing, L. I.:
2 Blacksnakes, 3 Water Snakes.
- STEPHENS, MRS. HENRY, Grasse Points, Mich.:
Troupial
- STERN, A. R., JR., New York City:
Alligator.
- STRUSS, H. L., Northport, N. Y.:
Milk Snake.
- SUTNER, MISS AMELIA, New York City:
White-Faced Sapajou.
- TACKAMUCK DEMOCRATIC CLUB, New York City:
Kinkajou.
- THAYER, REGINALD, Yonkers, N. Y.:
Chipmunk.
- TOMASHAK, MRS. J., New York City:
Canaries (4 specimens).
- TOMASHAK, L. T., New York City:
Canaries (4 specimens).
- TWEEDY, A. M., and WITT, ERNESTO, Guayaquil, Ecuador:
Andean Black Bear.
- VAILLANT, MRS. A., New York City:
Tovi Parakeet.
- VALENTINE, MRS. B. A., New York City:
Owl Monkey.
- VANDER SMISSEN, DR. GILBERT J., New York City:
Banded Rattlesnakes (2 specimens).
- VON MAYER-STARZHAUSEN, H., Nuremberg, Germany:
Fire-Bellied Toads (2 specimens).
- WALKER, LEWIS W., Forest Hills, L. I.:
Barbary Turtle Doves (2 specimens).
- WALLING, GEORGE I., Belford, N. J.:
Pine Snake.
- WALSH, WALTER, New York City:
Sapajou Monkey.
- WEIN, MISS RAE, New York City:
Bonneted Macaque.
- WELSH, GEORGE W., Amityville, L. I.:
Hog-Nosed Snake.
- WEYANT, MISS ETHEL, Yonkers, N. Y.:
Screech Owl.
- WHITE, MISS WILMA, Pompton Plains, N. J.:
Alligators (4 specimens).
- WILMER, MR. and MRS. SIDNEY, New York City:
1 Greater Hill Myna, 1 Javan Hill Myna.
- WILMER, MRS. SIDNEY, New York City:
Young Orang-Utan.
- WINSHAW, W. F., New York City:
Rhesus Monkeys (2 specimens).

WITT, ERNESTO, and TWEEDY, A. M., Guayaquil, Ecuador:
Andean Black Bear.

WITTSKE, MRS. KATIE, Jersey City, N. J.:

1 Yellow-Fronted Amazon, 1 Cuban Amazon, 1 Tovi Parrakeet. Total, 3 specimens.

YARDELL, LUNSFORD P., New York City:
Golden-Fronted Green Bulbul.

Plants

BY GIFT.

EMMICH, MRS. L., New York City:
3 Rubber plants.

SCHILLER, MRS., New York City:
Rubber Plant.

Art Gallery

BY GIFT.

RUNGIUS, CARL, New York City:
Oil Painting, "Portrait of a Lion."

SHURTLEFF, MRS. R. M., New York City:
Oil Painting by R. M. Shurtleff, "A Forest Tragedy."

Library

BY GIFT.

ASSOCIATED MOUNTAINEERING CLUBS OF NORTH AMERICA, through LEROY JEFFERS,
Secretary, New York City:

My Boyhood, by John Burroughs.

The Open Spaces, by John C. Van Dyke.

Watched by Wild Animals, by Enos A. Mills.

The Heart of Nature, by Sir Francis Younghusband.

The Call of the Mountains, by LeRoy Jeffers.

Mount Everest, The Reconnaissance 1921, by C. K. Howard-Bury.

The Importance of Bird Life, by G. Inness Hartley.

Skyline Camps, by Walter Pritchard Eaton.

Western Birds, by Harriet Williams Myers.

Inca Land, by Hiram Bingham.

Denizens of the Desert, by Edmund C. Jaeger.

Tales of Lonely Trails, by Zane Grey.

TAYLOR, MRS. ROBERT COLEMAN, New York City:

Narrative of a Voyage to the South Seas, by Charles Medyett Goodridge.

TODD, JAMES, Pittsburgh, Pa.:

Experiments with Oxygen on Disease, by James Todd.

National Collection of Heads and Horns

BY GIFT.

ABERCROMBIE, DAVID T., New York City:

Baird's Tapir (*Tapirella Bairdi*). Mounted Head.

BEACH, WILLIAM N., New York City:

American Moose (*Alces americanus*). Mounted Head.

BERNIER, CAPTAIN JOSEPH E., Levis, Quebec, Canada:

Natwhal (*Monodon monoceras*). Tusk.

BUCK, FRANK H., San Francisco, Calif.:

Babirusa (*Babirusa celebensis*). Skull and Tusks.

COLGATE, HENRY A., New York City:

Blackbuck, or Indian Antelope (*Antilope cervicapra*). Skull and horns.

COLTMAN, CHARLES T., Kalgan, China:

Mongolian Argali (*Ovis mongolica*). Unmounted Head.

Przewalski Gazelle (*Gazella przewalskii*). Unmounted Head.

CUTHBERT, E. R., Boquete, Chiriqui, Panama:

Panama White-tailed Deer (*Odocoileus rothschildi*). Eleven Pairs of Antlers.

Brocket (*Mazama*). Horns.

FOWLER, HAROLD, New York City:

Greater Kudu (*Strepsiceros capensis*). Horns.

HARRISON, ARCHIBALD, London, England:

African Buffalo (*Bos capris*). Mounted Head.

Gerenuk (*Lithocranius walleri*). Mounted Head.

Bongo (*Tragelaphus eurycerus*). Skull and horns.

HAZEN, JOHN D., Sioux Falls, S. D.:

Big-Horn Sheep (*Ovis canadensis*). Mounted Head.

HORNADAY, WILLIAM T., New York City:

Dwarf Pinacate Big-Horn (*Ovis canadensis* Shaw). Mounted Head.

MENIER, SENATOR GASTON, Paris, France:

European Red Deer (*Cervus elephas*). Mounted Head.

NOVOTY, A. & SONS, New York City:

East Indian Water Buffalo (*Bos bubalis*). Skull and horns.

RINGLING BROTHERS, through JOHN RINGLING, New York City:

Masai Giraffe (*Giraffa tippelskirchi*). Unmounted Head.

SCULL, E. MARSHALL, Philadelphia, Pa.:

Pacific Walrus (*Odobacnus rosmarus obesus*). Mounted Head.

TAYLOR, IRVING K., New York City:

Addra Gazelle (*Gazella dama*). Two Mounted Heads.

Isabella Gazelle (*Gazella isabella*). Two Mounted Heads.

TAYLOR, IRVING K., and WEHRHANE, H., New York City:

Gondokoro Ox (*Bos taurus*). Three Mounted Heads.

WEHRHANE, HENRY H., and TAYLOR, IRVING K., New York City:

Gondokoro Ox (*Bos taurus*). Three Mounted Heads.

BY PURCHASE.

Marco Polo Sheep (*Ovis ammon poli*). Horns on skull.

Kamchatkan Sheep (*Ovis nivicola*). Horns on skull.

Gayal (*Bos frontalis*). Horns.

Indian Buffalo (*Bos bubalis*). Horns.

Burmese Banting (*Bos sondaicus birmanicus*). Horns.

Anoa (*Bos depressicornis*). Two pairs of horns.

European Bison (*Bos europeus*). Horns.

Four-Horned Antelope (*Tetraceros quadricornis*). Horns.
 Nilgai (*Bosephalus tragocamelus*). Horns.
 Leucoryx Antelope (*Oryx leucoryx*). Horns.
 Dama Gazelle (*Gazella dama*). Horns.
 Arabian Gazelle (*Gazella arabica*). Horns.
 Muscat Gazelle (*Gazella muscatensis*). Horns.
 Heuglin's Gazelle (*Gazella tilonura*). Horns.
 Przewalski Gazelle (*Gazella przewalskii*). Horns.
 Marcia Gazelle (*Gazella marcia*). Horns.
 Indian Gazelle (*Gazella bennetti*). Horns.
 Mongolian Gazelle (*Gazella gutturosa*). Horns.
 Banded Duiker (*Cephalophus doriae*). Horns.
 Maxwell's Duiker (*Cephalophus maxwelli*). Horns.
 Bay Duiker (*Cephalophus dorsalis*). Horns.
 Blue Duiker (*Cephalophus monticola*). Horns.
 Red (Natal) Duiker (*Cephalophus natalensis*). Horns.
 Abyssinian Duiker (*Cephalophus abyssinicus*). Horns.
 Harvey's Duiker (*Cephalophus harveyi*). Horns.
 Crowned Duiker (*Cephalophus coronatus*). Horns.
 Philentomba Duiker (*Cephalophus maxwelli*). Horns.
 Abyssinian Oribi (*Oribia montana*). Horns.
 Swayne's (Somali) Dik-Dik (*Madoqua swaynei*). Horns.
 Grysbok (*Raphiceros melanotis*). Horns.
 Tibetan Muntjac (*Cervulus lachrymans*). Horns.
 Chinese Muntjac (*Cervulus lachrymans sclateri*). Horns.
 Indian Muntjac (*Cervulus muntjac vaginalis*). Horns.
 Eld's Deer (*Cervus eldi*). Antlers.
 Scandinavian Moose (*Alces machlis typicus*). Antlers.
 Himalayan Tahr (*Hemitragus jemlaicus*). Horns.
 Nilgiri Tahr (*Hemitragus hylocrius*). Horns.
 Arabian Tahr (*Hemitragus jayakeri*). Horns.
 Pallas Tur (*Capra caucasica cylindricornis*). Horns.
 Basilan Sambar (*Cervus unicolor nigricans*). Antlers.
 Guazuti (*Cervus campestris*). Antlers.
 Peruvian Guemal (*Xenclaphus antisensis*). Horns.
 Central American Deer (*Odocoileus nemoralis*). Six Pairs of Antlers.
 Naked-Eared Deer (*Cervus gymnotis*). Three Pairs of Antlers.
 Venezuelan White-Tailed Deer (). Antlers.
 Brazilian White-Tailed Deer (). Antlers.
 Costa Rican Deer (*Odocoileus costaricensis*). Antlers.
 Texas Deer (*Odocoileus texensis*). Antlers.
 European Roe (*Capreolus vulgaris*). Two Pairs of Antlers.
 Javan Rusa (*Cervus hippelaphus*). Antlers.
 Formosan Sambar (*Cervus unicolor swincki*). Antlers.
 Bornean Sambar (*Cervus unicolor equinus*). Antlers.
 Japanese Sika (*Cervus sika*). Antlers.
 Luzon Sambar (*Cervus unicolor philippinensis*). Antlers.
 Sze-chuan Sambar (*Cervus unicolor dejeani*). Antlers.
 Barasingha Deer (*Cervus duvauceli*). Antlers.
 Timor Deer (*Cervus timorensis*). Antlers.
 Manchurian Roebuck (*Capreolus bedfordi*). Antlers.
 Thorold's Deer (*Cervus albirostris*). Antlers.
 Manchurian Sika (*Cervus sil a manchuricus*). Antlers.
 Maral-Caspian Deer (*Cervus elephus maral*). Antlers.
 Manchurian Wapiti (*Cervus canadensis lueddorfi*). Antlers.
 Mule Deer (*Odocoileus hemionus*). Antlers.
 African Ox (*Bos taurus*). Horns.

- Indian Rhinoceros (*Rhinoceros unicornis*). Mounted Head.
 Burrhel, or Blue Sheep (*Ovis burrhel*). Mounted Head.
 White-Maned Serow (*Capricornis argyrochostes*). Mounted Head.
 Chinese Goral (*Nemorhoedus goral cinereus*). Mounted Head.
 Mongolian Gazelle (*Gazella gutturosa*). Mounted Head.
 Dybowski Sika (*Cervus hortulorum*). Mounted Head.
 Bay Duiker (*Cephalophus dorsalis*). Mounted Head.
 Bay Duiker (*Cephalophus castaneus*). Mounted Head.
 Peter's Duiker (*Cephalophus calyptygus*). Mounted Head.
 Maxwell's Duiker (*Cephalophus melanorheus*). Mounted Head.
 White-Bellied Duiker (*Cephalophus leucogaster*). Mounted Head.
 Cameroon Duiker (*Cephalophus*). Mounted Head.
 West African Duiker (*Cephalophus brookei*). Mounted Head.
 Lake Chad Buffalo (*Bos brachyceros*). Mounted Head.
 Addax (*Addax nasomaculatus*). Mounted Head.
 Oryx Leucoryx (*Oryx algazel*). Mounted Head.
 Crawshay's Waterbuck (*Cobus crawshayi*). Mounted Head.

 Hippopotamus (*Hippopotamus amphibius*). Mounted Head.
 Siberian Ibex (*Capra sibirica*). Mounted Head.
 Nyala, Inyala or Angas Antelope (*Tragelaphus angasi*). Mounted Head.
 Cape Hartebeest (*Bubalis cama*). Mounted Head.
 McGuire Caribou (*Rangifer meguirei*). Two Pairs of Antlers.
 Alaska Moose (*Alces americanus gigas*). Antlers.
 Maral Deer (*Cervus elephus maral*). Antlers.
 Nelson Mountain Sheep (*Ovis nelsoni*). Two Unmounted Heads.
 Pygmy African Elephant (*Loxodon pumilio*). Tusks.
 Burmese Banting (*Bos sondaicus birmanicus*). Horns.
 Schomburgk's Deer (*Cervus schomburgki*). Antlers.
 Sambar Deer (*Cervus unicolor*). Antlers.

LIST OF ACCESSIONS BY THE
New York Zoological Society

AT THE AQUARIUM.

1922

BY GIFT.

- ALEXANDRE, E. S., Brooklyn, N. Y.:
Young Alligator.
- ALLEN, N. C., Indiana:
Painted Turtle.
- BACKER, CHARLES, Freeport, N. Y.:
Young Alligator.
- BAILEY, MRS. PHILIP S., Tom's River, N. J.:
Young Alligator.
- BARRETT, Miss F. V. T., New York City:
Chameleon, 3 Young Alligators.
- BARNEY, R. L., Fairport, Iowa:
22 Fresh Water Mussels (12 species).
- BECK, C. A., New York City:
Young Alligator.
- BEISEL, WILLIAM J., Staten Island, N. Y.:
2 Bullfrogs.
- BELLE ISLE AQUARIUM, Detroit, Mich.:
12 Mud Puppies.
- BENJAMIN, MASTER GILBERT, Rutherford, N. J.:
Snapping Turtle, 12 Painted Turtles.
- BANKARD, MAJOR J. PHILIP, New York City:
2 Cumberland Turtles, 2 Geographic Turtles.
- BOSCHEN, HENRY L., Brooklyn, N. Y.:
Young Alligator.
- BROOKS, MASTER WALTER, Elizabeth, N. J.:
Painted Turtle.
- BUCCI, ANTHONY, New York City:
Horseshoe Crab.
- BURROUGHS, MRS. A. E., Newark, N. J.:
Yellow-bellied Slider, Cumberland Turtle.
- CHESEBRO BROS. AND ROBINS, INC., New York City:
28 Bullfrogs.
- CHILDREN'S MUSEUM, Brooklyn, N. Y.:
Young Alligator.
- CONIGLIARO, V., New York City:
Young Alligator.
- CORNISH, MRS. C. D., New York City:
Kemp's Turtle.
- CRAWFORD, D. R., New York City:
300 Newts.

- DE LEON, MISS, New York City:
Young Alligator.
- ESKIN, MASTER MORRIS, Brooklyn, N. Y.:
Young Alligator.
- FLANIGAN, JACK, New York City:
Snapping Turtle.
- FLORSHEIM, H. A., New York City:
50 Pickerel.
- FRIEDRICHS, G., Quebec, Canada:
8 large Eels.
- FUSS, GEORGE, New York City:
Young Alligator.
- GAINS, C. A., Morris Heights, N. J.:
Young Alligator.
- GOSSLING, FRED, New York City:
Water Snake and young.
- GRIES, MISS, New York City:
7 young Southern Terrapins.
- GULBRANNSON, MISS HELEN, New York City:
Young Alligator.
- HAGENBECK, HEINRICH, Hamburg, Germany:
4 Tench, 334 Fire Salamanders.
- HANDRICH, MISS H., Brooklyn, N. Y.:
Painted Turtle.
- HANNEMAN, MRS. B., New York City:
2 Young Alligators.
- HAZARD, ROWLAND, Peacedale, R. I.:
48 Brook Trout.
- KEDDY, H. J., JR., New York City:
Young Alligator.
- KESSLER, DR., New York City:
2 Young Alligators.
- KING, J. F., New York City:
Snapping Turtle.
- LALOUSE, MONSIEUR PIERRE, New York City:
Wood Turtle.
- LOPER, MRS. F. M., New York City:
2 Young Alligators.
- MANN, PAUL B., New York City:
About 200 Lake Trout fry.
- MARCUS, NATHAN, Brooklyn, N. Y.:
Box Tortoise.
- MUNRO, JOHN, New York City:
Box Tortoise.
- NOBLE, DR. G. K., New York City:
5 Spadefoot Toads.
- OHIRA, K., Brooklyn, N. Y.:
Diamond-back Terrapin.

- PARDOE, DR. J. B., Bound Brook, N. J.:
48 Spotted Turtles, 6 Box Tortoises.
- PFEIFFENBERGER, FRANCIS, Rumson, N. J.:
Sea Horse.
- PLANITZ, M. C., Brooklyn, N. Y.:
2 Painted Turtles.
- POOLE, ROBERT J., Hoboken, N. J.:
Snapping Turtle.
- PORTER, MASTER HORACE, Pleasantville, N. Y.:
Young Alligator.
- POTTS, GEORGE, Brooklyn, N. Y.:
Young Alligator.
- RISKA, MASTER RUDOLPH, New York City:
Young Alligator.
- RITTER, D. S., Indianapolis, Ind.:
150 Fancy Goldfish, 7 Western Painted Turtles, 7 Bullfrogs.
- ROBERTS, LEON E., Brunswick, Georgia:
48 Young Diamond-back Terrapins.
- ROGERS, G. W., Jersey City, N. J.:
Young Alligator.
- RUMP, HENRY, New York City:
Eighty pound Alligator.
- SALEEBY, S., New York City:
Goldfish.
- SAMKE, MISS MABLE, Brooklyn, N. Y.:
2 Young Alligators.
- SARVENT, C. A., Nyack, N. Y.:
Albino Blue Crab.
- SCHWAB, R., Guttenberg, N. J.:
Painted Turtle.
- SEE, MRS. B. D., Jersey City, N. J.:
Young Alligator.
- SHEBOVESKY, LEWIS, Brooklyn, N. Y.:
Box Tortoise.
- SIMON, L., New York City:
Spotted Turtle.
- SMITH, WILLIAM ALVAH, New York City:
Young Alligator.
- SOUTHERN N. Y. FISH AND GAME ASS'N., White Plains, N. Y.:
Albino Catfish.
- SPENGLER, T. H., Brooklyn, N. Y.:
Three-foot Alligator.
- STAMATAKIS, C. M., New York City:
Box Tortoise.
- STIENIKE, FRANK L., Brooklyn, N. Y.:
Box of Enehytrae.
- STUMPF, H. M., Glendale, N. Y.:
Box Tortoise.
- SUNDEN, RUSSELL, Brooklyn, N. Y.: . .
Young Alligator.
- TRIPP, G. P., East Orange, N. J.:
Young Alligator.
- WARREN, W., New York City:
Wood Turtle.

- WEBER, CHARLES T., New York City:
Young Alligator.
- WEBSTER, E. L., New York City:
Kemp's Turtle.
- WILSON, MASTER ROY, Staten Island, N. Y.:
Snapping Turtle.
- WINCHESTER, G. E., Bemis Point, N. Y.:
9 large Muskallunge.
- WINTON, A. H., Hoboken, N. J.:
Young Alligator.
- ZOPF, JOSEPH, New York City:
Young Alligator.

The Aquarium Library

BY GIFT.

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 EVELAND, FRANK,
 EVERETT, A. L.,
 EWING, GEORGE R. M.,

EWING, MRS. THOMAS.
 EYER, GEORGE A.,
 FABBRI, ERNESTO G.,
 FABBRI, MRS. ERNESTO G.,
 FABER, EBERHARD,
 FAHNESTOCK, DR. ERNEST.
 FAHNESTOCK, MRS. ERNEST,
 FAHNESTOCK, HARRIS.
 FAHNESTOCK, WILLIAM,
 FAIRCHILD, BENJAMIN L.,
 FAIRCHILD, BENJAMIN THOMAS,
 FAIRCHILD, MRS. C. S.,
 FAIRCHILD, SAMUEL W.,
 FALLS, MRS. DEWITT CLINTON,
 FARLEY, MRS. GUSTAVUS, JR.,
 FARNAM, WM. W.,
 FARRAND, MAX.
 FAY, FRANCIS B.,
 FECHTIG, DR. ST. GEORGE,
 FELDMAN, O. A.,
 FERGUSON, E. J.,
 FERGUSON, WILLIAM C.,
 FERRY, MANSFIELD,
 FEUSS, MAJOR ANDREW W.,
 FEUSTMAN, LEON P.,
 FIELD, MRS. AUGUSTUS B.,
 FIELD, HENRY,
 FIELD, MRS. MARSHALL,
 FILLEY, F. HERBERT,
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 FISCHER, WILLIAM,
 FISCHER, WILLIAM H.,
 FISH, MRS. HAMILTON,
 FISHER, EDWIN A.,
 FITZHUGH, JOHN L.,
 FITZPATRICK, FRANK J. E.,
 FLAGLER, HARRY HARKNESS,
 FLEISCHMANN, UDO M.,
 FLEITMANN, FREDERICK T.,
 FLEMING, MATTHEW C.,
 FLETCHER, HENRY,
 FLORSHEIM, HARRY A.,
 FLOYD-JONES, EDWARD H.,
 FOOT, SANDFORD DWIGHT,
 FORBIN, V.,
 FORDYCE, JOHN A.,
 FORREST, ARCHIBALD A.,
 FOSBURGH, JAMES B. A.,
 FOSHAY, P. MAXWELL,
 FOSTER, EDWARD W.,
 FOSTER, FRANK B.,
 FOSTER, GIRAUD,
 FOSTER, HOWARD CROSBY,
 FOSTER, MACOMB G.,
 FOULK, MISS MABEL P.,
 FOULK, THEODORE,
 FOWLER, MRS. ANDERSON.

FOWLER, MRS. ARTHUR.
 FOWLER, RUSSELL S. M. D.,
 FOX, MISS ALICE BLEECHER,
 FOX, AUSTIN G.,
 FOX, FREDERICK P.,
 FRANK, EMIL,
 FRANK, LOUIS,
 FRASER, ALEX. J.,
 FRASER, ALEX. V.,
 FRASER, MISS ANN C.,
 FRASER, MRS. GEORGE C.,
 FRASER, MISS JANE G.,
 FRASER, MISS J. K.,
 FRASER, MISS SARAH,
 FRASER, WM. A.,
 FRAZER, E. W.,
 FREDERICK, MRS. LEOPOLD,
 FREEDMAN, LEO,
 FREEMAN, MISS GERTRUDE A.,
 FRENCH, DANIEL C.,
 FRENCH, MRS. JOHN,
 FRIES, DR. HAROLD H.,
 FRISSELL, A. S.,
 FRITH, MISS LOUISE S.,
 FROMM, S. W.,
 FRIST, AARON V.,
 FROTHINGHAM, JOHN W.,
 FROTHINGHAM, WM. I.,
 FRUEAUFF, FRANK W.,
 FULD, FELIX,
 FULLE, JOHN H.,
 FULLER, CHARLES D.,
 FULLER, MRS. EUGENE,
 FUNKE, EDMUND A.,
 GADDIS, HOUSTON L.,
 GAILLARD, MRS. WM. D.,
 GALBAN, EUGENIO,
 GALLAND, MISS BERTHA,
 GALLAND, NATHANIEL K.,
 GALLATIN, ALBERT,
 GALLATIN, MRS. ALBERT,
 GALLATIN, GOELET,
 GALLATIN, MRS. GOELET,
 GALLAWAY, MERRILL W.,
 GALLOWHUR, W. G.,
 GANO, M. W., JR.,
 GANSS, HERMAN O.,
 GARDINER, CHARLES B.,
 GARDNER, MRS. ALFRED W.,
 GARRARD, MISS MARGARET H.,
 GARRETT, JOHN W.,
 GARRETT, MISS LAURA B.,
 GARRETTSON, MISS HELEN JAY,
 GARRISON, C. M.,
 GATES, MOODY B.,
 GAWTRY, LEWIS B.,
 GAYNOR, RUFUS WILLIAM,

- GEDDES, DONALD G.,
 GELLER, MISS ANNE D.,
 GELSHENEN, WM. H.,
 GEORGE, G. K.,
 GERRY, PETER G.,
 GERRY, ROBERT L.,
 GERSTENDORFER, ALBERT,
 GIBB, MRS. H. E.,
 GIBBS, GEORGE,
 GILBERT, CLINTON,
 GILDERSLEEVE, HENRY A.,
 GILLESPIE, ROBERT McM.,
 GILLIES, EDWIN J.,
 GILSEY, HENRY,
 GLAZIER, HENRY S.,
 GLEASON, HERBERT P.,
 GLESEN, MISS LOUISE MARIE,
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 GODDARD, MRS. MORRILL,
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 GOODWIN, GRENVILLE,
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 GOODWIN, WALTER L.,
 GOODWIN, WALTER L., JR.,
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 GOTTHOLD, ARTHUR F.,
 GOTTHOLD, FREDERIC,
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 HIRSCH, CHARLES S.,
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 HOYT, ALFRED O.,
 *HOYT, COLGATE,
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 HURDMAN, FREDERICK H.,
 HUSSEY, FREDERICK,
 HUTCHINS, AUGUSTUS SCHIELL,
 HUTCHINS, HARLEY D.,
 HUTCHINSON, CARY T.,
 HUYLER, C. D.,
 HUYLER, F. D.,
 HYDE, MRS. AUGUSTUS L.,
 HYDE, B. T. BARBITT,
 HYDE, COURTNEY,
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 HYDE, DR. FREDERICK E.,
 HYDE, SEYMOUR WORRALL,
 ILLINGWORTH, CLARENCE,
 INGERSOLL, ERNEST,
 INGERSOLL, ROBERT H.,
 *INNIS, WILLIAM R.,
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 IRONS, HENRY C.,
 ISAACS, STANLEY M.,
 ISELIN, MRS. ARTHUR,
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 ISELIN, MISS GEORGINE,
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 ISHAM, WILLIAM B.,
 ISRAEL, LEON,
 JACKSON, FREDERICK W.,
 JACKSON, MRS. FREDERICK W.,
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 JACOBUS, JOHN S.,
 JACQUELIN, HERBERT T. B.,
 JAFFRAY, ROBERT,
 JAMES, MRS. ARTHUR CURTISS,
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 *JAMES, DR. ROBERT C.,
 JAMES, MRS. WALTER B.,
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 JENKS ROBERT I.,
 JENNINGS, SIDNEY J.,
 JENNINGS, WALTER,
 JESUP, MRS. JAMES R.,
 JOHN, ROBERT,
 JOHNSON, F. COIT,
 JOHNSON, GILBERT H.,
 JOHNSON, GUY B.,
 JOHNSON, THOS. W.,
 JOHNSTON, J. HERBERT,
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 JONES, MRS. A. MASON,
 JONES, MRS. CADWALADER,
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 JONES, H. BOLTON,
 JONES, H. LEROY,
 JONES, LEWIS Q.,
 JONES, WM. R.,
 KAHN, FELIX E.,
 KAHN, LOUIS,
 KAHN, MRS. OTTO H.,
 KAHN, DR. ROBERT J.,
 KAHN, WALTER N.,
 KALKHOFF, G. FREDERICK,
 KANE, MRS. ARTHUR S.,
 KANE, MRS. DELANCEY,
 KARCHER, FRANK J.,
 KARELSEN, EPH A.,
 KAUF, ALBERT,
 KEAN, HAMILTON FISH,
 KEAN, MRS. HAMILTON FISH,
 KEAN, ROBERT WINTHIROP,
 KECK, MISS MARGARET W.,
 KEECH, FRANK B.,
 KEECH, MRS. FRANK B.,
 KEELER, MRS. C. B.,
 KEIL, HENRY F.,
 KILCHNER, WILLIAM W.,
 KELLOGG, JOHN O.,
 KELLY, DR. HOWARD A.,
 KENNEDY, EDWARD G.,
 KENNEDY, MRS. H. VAN RENSSELAER,
 KENNEDY, HENRY W.,
 KENNEDY, MRS. JOHN STEWART,
 KENNERLY, MISS M. M.,
 KENT, EDWIN C.,
 KEPHART, REV. WILLIAM H.,
 KEPPEL, DAVID,
 KETCHAM, IRVING M.,
 KEUFFEL, W. G.,
 KEYES, MRS. CHARLES W.,
 KEYSER, MRS. SAMUEL,
 KIBBER, WILLIAM B.,
 KIEGER, EMIL L.,
 KERNAN, PETER D.,
 KIMBALL, LEROY E.,

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 KING, MISS ELLEN;
 KING, MISS ETHEL.
 KING, JAMES GORE.
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 KINGSLEY, W. M.,
 KINNEY, WARREN.
 KINNEY, MRS. WARREN,
 KIP, W. RU'LOFF,
 KIRKHAM, WILLIAM B.,
 KIRKMAN, SIDNEY A.,
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 KLAU, MARC,
 KLEIN, D. EMD.,
 KLEIN, MILTON M.,
 KLINGENSTEIN, CHAS.,
 KLUGMAN, J.,
 KNAPP, ARNOLD,
 KNAPP, MRS. JAMES.
 KNAPP, WM. J.,
 KNIGHT, CHARLES R.,
 KNOEDLER, ROLAND F.,
 KOEHLER, H. C.,
 KGHIL, EDWIN PHILLIPS.
 KOLB, FRED.,
 KOLB, GEORGE C., JR.,
 KOLES, DR. HENRY M.,
 KOLISTEDE, C. A.,
 KONTA, ALEXANDER,
 *KRAUS, SAM.
 KRECH, MRS. ALVIN W.,
 KREMER, MRS. WILLIAM N.,
 KUHN, AUGUST,
 KUHN, FRANK,
 KUHN, JULIUS,
 KUMPF, GEORGE L.,
 KUNIHARDT, HENRY R.,
 KUNZ, GEORGE F.,
 KURSHEEDT, ALPHONSE H.,
 KURZMAN, CHARLES C.,
 KUSER, MRS. ANTHONY R.,
 KUSER, MISS CYNTHIA G. D.,
 KUSER, JOHN DRYDEN,
 KUSER, JOHN L.,
 KUTTROFF, ADOLF,
 KUTTROFF, FREDERICK,
 LABAR, EUGENE S.,
 LACOMBE, HON. E. HENRY,
 LADD, WM. SARGENT, M.D.,
 LAGAI, DR. GEORGE,
 LAGEMANN, C.,
 LAHENS, MRS. PHEBE P.,
 LAIMBEER, JOHN, JR.,

LAMBERT, DR. ADRIAN V. S.,
 LAMBERT, DR. ALEXANDER.
 LAMBERT, DR. SAMUEL W.,
 LAMBERT, MRS. SAMUEL W.,
 LAMBORN, A. II.,
 LAMONT, MRS. THOMAS WILLIAM,
 LA MONTAGUE, MISS MARIE,
 LANDAUER, I. N.,
 LANDON, FRANCIS G.,
 LANE, MISS ANNIE E.,
 LANE, EDWARD V. Z.,
 LANE, JAMES WARREN.
 LANE, WOLCOTT G.,
 LANGE, MISS CARMEN.
 LANGE, DR. MATILDE M.,
 LANGSTADTER, AARON.
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 LATTING, CHARLES P.,
 LAUDER, MRS. GEORGE, JR.,
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 LAUTERBACH, MRS.,
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 LAWRENCE, JOHN BURLING,
 LAWRENCE, JOHN L.,
 LAWRENCE, R. WARREN.
 LAWRENCE, TOWNSEND.
 LAWRENCE, W. V.,
 LAWSON, ARTHUR M.,
 LEA, CHARLES M.,
 LEACH, HENRY GODDARD,
 LEAVENS, MARVIN H.,
 LEDLIE, GEORGE.
 LEDOUX, DR. ALBERT R.,
 LEDYARD, MRS. LEWIS C.,
 LEE, MRS. FREDERIC S.,
 *LEE, GEORGE C.,
 LEE, SAMUEL,
 LEFFERTS, MARSHALL C.,
 LEFKOVICS, MRS. JULIET,
 LEGG, GEORGE.
 LEGGETT, WARREN F.,
 LEHMAIER, JAMES M.,
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 LEONARD, MRS. H. WARD,
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 LEROY, EDWARD A.,
 LESLIE, J. C.,
 LESTER, A. EDWARD,
 LESTER, GEORGE BACON,
 LESTER, HENRY M.,
 LEUPP, WILLIAM H.,
 LEVEY, MRS. PHILLIP B.,
 LEVY, LOUIS S.,
 LEWIS, MRS. AUGUST,
 LEWIS, DR. WILLIAM J.,
 LEWISOHN, ADOLPH,

*DECEASED

- LEWISOHN, SAM A.,
 LICHENSTEIN, OSCAR R.,
 LIEB, CHARLES C.,
 LIEB, J. W.,
 LINCOLN FREDERIC W.,
 LINCOLN, MRS. LOWELL,
 LISSAUER, ROBERT,
 LISSBERGER, MILTON L.,
 LITCHFIELD, E. HUBERT,
 LITCHFIELD, EDWARD H.,
 LITTAUER, SIEGFRIED,
 LITTLEFIELD, CAPT. CHARLES W.,
 LIVERMORE, MRS. JOHN R.,
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 LIVINGSTON, EDWARD DE P.,
 LLOYD, MRS. JOSEPH P.,
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 LORD, MISS E. C.,
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 LOW, WILLIAM GILMAN, JR.,
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 LOWTHER, CHRISTOPHER M.,
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 LUEDER, C. G.,
 LUEDER, E. L.,
 LUKE, ADAM K.,
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 LUSK, PROF. GRAHAM,
 LUTKINS, CLINTON S.,
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 McCoy, J. C.,
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 McEWEN, PAUL,
 McEWEN, MRS. PAUL,
 McFARLIN, W. K.,
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 McKIM, JOHN A.,
 McKIM, LEROY,
 McLANE, THOMAS S.,
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 MacENULTY, J. F.,
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 MACFARLANE, WALLACE,
 MACK, ARTHUR C.,
 MADDEN, J. E.,
 MAGEE, JOHN,
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 MALI, PIERRE,
 MALI, MRS. PIERRE,
 MALONE, L. WM.,
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CHARTER
OF THE
New York Zoological Society

CHAPTER 435, LAWS OF 1895.

AN ACT to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the city of New York.

As amended by Chapter 146 of the Laws of 1902; and by Chapter 240 of the Laws of 1910.

See Chapter 432 of the Laws of 1900.

See Chapter of the city of New York, Section 626 of the Laws of 1901

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Charles A. Dana, Oswald Ottendorfer, Andrew H. Green, William H. Webb, Henry H. Cook, Samuel D. Babcock, Charles R. Miller, George G. Haven, J. Hampden Robb, Frederick W. DeVoe, J. Seaver Page, Rush C. Hawkins, David James King, Wager Swayne, Charles A. Peabody, Jr., Charles E. Whithead, Charles R. Flint, Samuel Parsons, Jr., Mornay Williams, Henry E. Gregory, Isaac W. Maclay, Isaac Rosenwald, Hugh N. Camp, Andrew D. Parker, Cornelius Van Cott, William F. Havemeyer, Frederick Shonnard, William W. Thompson, Alexander Hadden, Edward L. Owen, John H. Starin, Rush S. Huidekoper, William W. Goodrich, Albert H. Gallatin, Frederick S. Church, Edward C. Spitzka, Robert L. Niles, Madison Grant, C. Grant La Farge, William Van Valkenburg, and such other persons as may, under the provisions of its by-laws, become members of the corporation hereby created, are hereby created a body corporate and politic, by and under the name of New York Zoological Society.

SEC. 2. Said corporation shall have power to establish, maintain and control zoological parks, gardens, or other collections for the promotion of zoology and kindred subjects, and for the instruction and recreation of the people. Said corporation may collect, hold, and expend funds for zoological research and publication, for the protection of wild animal life, and for kindred purposes, and may promote, form, and co-operate with other associations with similar purposes, and may purchase, sell, or exchange animals, plants, and specimens appropriate to the objects for which it was created.

SEC. 3. The managers of said corporation shall have power to make and adopt by-laws for the management and government of its affairs and business, for the admission, suspension, and expulsion of its members, and for the terms and conditions of membership; to prescribe the number and mode of election of its officers; to define their duties; to provide for the safe-keeping of its property, and from time to time to alter and modify its By-laws.

SEC. 4. The affairs and business of said corporation shall be managed and controlled by a board of managers, the number of whom shall be prescribed by the by-laws. The first board of managers shall be divided by lot into three classes, equal in number, one of which classes shall hold office for one year, another for two years, and the other for three years; and all persons elected to be managers at any subsequent election shall hold office for three years, and until others are elected in their stead. There shall be a president, two vice-presidents, treasurer and secretary, to be elected by the board of managers annually, who shall hold office until others are elected in their stead. The first meeting under this act may be held at any time upon a notice of five days, signed by any five of the incorporators named in the first section of this act, fixing a time and place for such meeting, a copy whereof shall be mailed to each of said incorporators at his usual post-office address, and twelve of such incorporators shall be a quorum for the purpose of organization, adoption of by-laws, and election of officers. No manager of said corporation shall be interested, directly or indirectly, in any contract concerning its property or affairs.

SEC. 5. Said corporation may raise money by the issue of bonds, secured by a mortgage on any or all of its property not acquired from said city or state.

SEC. 6. Said corporation may take, purchase, and hold real and personal estate necessary for the purpose of its incorporation, and shall possess the general powers and be subject to the restrictions and liabilities prescribed in Article II of Chapter 23 of the Consolidated Laws, entitled "General Corporation Law," being chapter 28 of the Laws of 1909.

SEC. 7. The commissioners of the sinking fund of the said city are authorized in their discretion to allot, set apart, and appropriate for the use of said corporation, any of the lands belonging to said city north of One Hundred and Fifty-fifth Street, but not in the Central Park, and such appropriation may be revoked if, after the expiration of five years from the passage of the act, a zoological garden is not established thereon; said grounds thus set apart and appropriated shall be used or no purpose whatsoever except those aforesaid. As soon as any lands are set apart the Mayor of the said city of New York, and the President of the Department of Parks of said city, shall become and be *ex-officio* members of the board of managers of said corporation. If at any time the animals now composing the menagerie of Central Park shall be removed therefrom by the authorities having charge thereof, said authorities may make an arrangement with the incorporators named in this act or the corporation formed by them for leasing or sale of such animals to such incorporators or corporation, and said incorporators or corporation shall have a preference over any other person or corporation in respect thereto upon the same terms which said authorities could make with any such other person or corporation, or upon such other terms as to such authorities may seem proper, but nothing herein provided shall be construed as giving the commissioners of the Department of Public Parks authority to sell, lease, transfer, or in any other wise dispose of said animals or other property connected with or belonging to said menagerie.

SEC. 8. Admission to the said gardens shall be free to the public for at least four days, one of which shall be Sunday, in each week, subject to such rules and regulations as shall be prescribed by said corporation.

SEC. 9. This act shall take effect immediately.

AN ACT to amend chapter four hundred and thirty-five of the laws of eighteen hundred and ninety-five, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the City of New York" in relation to real and other property.

Became a law May 26, 1917, with the approval of the Governor. Passed, three-fifths being present.

ACCEPTED BY THE CITY.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Chapter four hundred and thirty-five of the laws of eighteen hundred and ninety-five, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the City of New York," as amended by chapter two hundred and forty of the laws of nineteen hundred and ten, is hereby further amended by adding thereto a new section to read as follows:

7-a. The board of estimate and apportionment in the City of New York may, in its discretion, set apart and appropriate upon such conditions as it may deem expedient for the extension and development of the work and objects of the said New York Zoological Society, the whole or any part of that portion of Bronx Park in the City of New York, lying to the south of Pelham avenue and Pelham parkway, for the use of the said New York Zoological Society, the said lands so to be appropriated to be described particularly in the order of the board of estimate and apportionment hereby authorized. The said board of estimate and apportionment may also, in its discretion at the time of setting apart and appropriating said lands or any part thereof to the New York Zoological Society, and annually thereafter, in addition to any sum or sums which it may have appropriated for the support and maintenance of the New York Zoological Park, appropriate to the use of said society, such sum or sums in its discretion for the care and maintenance of the additional lands that may be allotted to the said society under the authority hereby conferred, as it may deem best.

2. This act shall take effect immediately.

New York Zoological Society

AND THE

New York Aquarium

CHAPTER 441, LAWS OF 1902.

AN ACT to authorize a further appropriation to the New York Zoological Society for the support of the New York Aquarium.

As amended by Chapter 239 of the Laws of 1910.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Chapter four hundred and forty-one of the laws of nineteen hundred and two, entitled "An Act to authorize a further appropriation to the New York Zoological Society for the support of the New York Aquarium," is hereby amended to read as follows:

SECTION 1. The Board of Estimate and Apportionment of the City of New York may annually, in its discretion, include in the budget for the then next ensuing financial year, in addition to any sum or sums which may be appropriated for the adequate support and maintenance of the New York Zoological Park or gardens, situated in the borough of the Bronx, and administered and controlled by the New York Zoological Society, a further sum or sums, in its discretion, for the use of the said New York Zoological Society, provided, however, that the additional appropriation hereby authorized shall be made only in case an agreement is entered into between the said New York Zoological Society and the City of New York, acting by its Board of Estimate and Apportionment for the adequate keeping, maintenance, extension, preservation and exhibition of the building and approaches thereto and collection of aquatic animals and plants contained therein, known as the New York Aquarium, situated in the Battery Park in the Borough of Manhattan in said city, and also for furnishing opportunities for study, research and publication in connection with said collections, which contract the said Board of Estimate and Apportionment is hereby expressly authorized, in its discretion, to make upon such terms and conditions as may be agreed upon with the said New York Zoological Society, and which contract shall also provide how the duty of the commissioner of parks for the borough of Manhattan and Richmond in respect to maintaining the said aquarium now imposed upon him by law shall be performed.

Sec. 2. This act shall take effect immediately.

GRANT OF SOUTH BRONX PARK
TO THE
New York Zoological Society

At a special meeting of the Commissioners of the Sinking Fund, City of New York, held on March 24, 1897, a resolution was passed allotting South Bronx Park for the use of the New York Zoological Society upon conditions entirely satisfactory to the Society.

The full text of the resolution is as follows:

WHEREAS, by chapter 433 of the Laws of 1895, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a Zoological Garden in the City of New York," it is provided that the Commissioners of the Sinking Fund of the City of New York are authorized in their discretion to allot, set apart and appropriate, for the use of said corporation, any of the lands belonging to said city north of 155th Street, but not in Central Park,

RESOLVED, that the said Commissioners of the Sinking Fund do hereby allot, set apart and appropriate for the use of said corporation, a tract of land in the southern portion of Bronx Park, embracing an area of about 261 acres, and consisting of so much of said park as lies south of Pelham Avenue, upon the following terms and conditions, to wit:

First. That said grounds thus set apart and appropriated, shall be used for no other purpose whatsoever except for the purposes of said Zoological Garden as the same are specified in the act aforesaid, and that said appropriation of said lands hereby made shall be revoked if, after the expiration of three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, a Zoological Garden is not established upon said tract of land.

Second. That the original equipment of buildings and animals for said Zoological Garden shall be paid for from funds contributed by the New York Zoological Society, and that said Society shall, before it enters into occupation of the allotted land and within one year from the date of this Resolution, raise one hundred thousand dollars by subscription, and within three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, the further sum of at least one hundred and fifty thousand dollars. If the said Society shall fail or neglect to raise said funds within the periods respectively fixed therefor, it shall, on demand of the Commissioners of the Sinking Fund, surrender to the City of New York the land allotted to it as

a site for said Garden, and all improvements made thereon. The said Society shall not mortgage its buildings or animals, or any of its property within said Garden, which is directly or indirectly maintained by the City of New York.

Third. The said Zoological Society shall have the power to establish an endowment fund from the donations and bequests, which fund shall be used solely, unless otherwise specified by the donors thereof, for the general uses and purposes of said Society. The funds of said Society, other than the sums contributed to said endowment fund, shall be expended upon buildings and other enclosures for animals, for the collections of animals, and for the general purposes of the Society. Among the funds thus to be expended shall be the subscriptions of members, life members and patrons, and all cash donations to said Society, other than those made for the purposes of the endowment fund, and all moneys derived from the sale of animals; and the net proceeds of the privileges that may be developed in said Garden, such as refreshments, boating, riding animals, the sale of photographs, etc., shall be used for, and expended in the increase of the collections; and payments from the funds of such Society, including the endowment fund, shall be made directly from the treasury of the Society.

Fourth. The library, pictures, maps, office furniture, and other movable property purchased and owned by the Society shall remain the property of the Society, and excepting living animals, may be removable at will, and every piece of such property shall bear a distinguishing mark. But no buildings, aviaries or cages may be sold or removed by said Society without the written consent of the Board of Parks. All property paid for from the maintenance fund, hereinafter referred to, shall belong to the City.

Fifth. So long as the said Society is entrusted with the control and management of the said Zoological Garden, and the city provides for the proper maintenance and care of the animals and collections therein, the said Society shall not remove any of its animals or collections for exhibition elsewhere without the consent of the Board of Parks, but if the City shall ever cease to provide for the proper maintenance and care of the said animals and collections, the said Zoological Society shall have the right, upon giving three months' notice in writing to the Board of Parks, to remove the said animals and collections owned by it. The said Society shall have the right to improve its collections by the exchange of animals, and also by the sale of animals not needed for exhibition; but all moneys derived from such sale or exchange of animals shall be used only for the purpose of increasing said collections.

Sixth. The City of New York shall annually provide the necessary funds for the maintenance and care of the Zoological Garden, its buildings, inclosures and other improvements made from time to time therein, and the animals and collections of said Society; but the appropriation for the first year is not to exceed Sixty thousand dollars (\$60,000). It shall be the duty of the City to provide from such sums or appropriations, as may be applicable thereto, the cost of the necessary improvement of the ground prior to the erection of buildings and inclosures, including such roads, walks, fences, grading, water supply, drainage and heating as may be or become necessary for the proper development of said Zoological Garden, all of which work of preparation and construction shall be performed in conformity with the plans therefor to be agreed upon between the Park Department and the Zoological Society. The said City shall also furnish the necessary supply of water, and adequate police patrol and protection, and the salaries of all persons employed directly in the service and development of the Zoological Garden shall be paid from the maintenance fund, and from such other funds as may be available for and applicable to the purpose. Payments from the maintenance fund shall be made upon vouchers filed with the Comptroller and drawn in such form as he may direct; and said Society shall annually render to the Mayor of the City of New York, a report showing all expenditures during

the year then past, made on account of the said Zoological Garden, all revenues and resources thereof, a statement of the number of the members of said Society, of the donations received and of the number of animals in the Garden, the chief items of improvement made during the year, and all other information that the said Mayor may require.

Seventh. The Park Department shall at all times have access to the grounds, buildings and other inclosures of the said Zoological Society for general police visitation and supervision, and for all other lawful purposes. Prior to the commencement of any work on said Garden the general plan therefor shall be submitted to and approved by the Park Board, and all subsequent plans for buildings, roadways and paths shall also be so submitted and approved. No living tree shall be cut down or removed, except by the express authority of said Park Department, but the said Zoological Society shall have the right to remove dead trees and such bushes as it may be necessary to remove in the preparation of inclosures for animals, or in making other improvements. The said Department of Parks shall plant such and so many shade trees, aquatic plants, shrubs and flowers as may be necessary to enhance and secure the seclusion, beauty and usefulness of the park, and shall do and perform all the work of gardening necessary to carry out the general plan of improvement and the subsequent plans as may be agreed upon between the said Zoological Society and the said Department of Parks.

Eighth.—The said Zoological Garden and its collections shall be free to the public without the payment of any admission fee or gratuity whatsoever for not less than seven hours a day on at least five days of the week, one of which shall be Sunday, and also on all legal holidays and half holidays, subject to such reasonable regulations as may be made by said Society, but the said Society may close the area devoted to the collections of animals on not more than two days in each week, and on such days may charge an admission fee which shall be fixed by said Society, and all moneys derived from such admission fees shall be expended by said Society in the increase of the collections or in the improvement of said Garden or its buildings; but the portion of the grounds situate east of Boston Road, and all the Bronx River below the Boston Road bridge shall be open to the public at all times as pleasure grounds, subject to such reasonable regulations as may be adopted by said Society with the approval of the Park Department, and the occupancy of that portion of the park by herds of animals or by collections, shall be subject to the consent of the Park Department.

Ninth. The said Zoological Society shall have the right and power to appoint, direct, control and remove all persons and officers employed by them in and about the Zoological Garden, and to fix the salaries of such persons and officers and to make promotions, but all regular employees shall be chosen, and their salaries fixed and promotions made, by reason of special fitness and ability.

Tenth. Subject to the conditions hereinbefore contained, the said Zoological Society shall exercise entire control and management over all the affairs of the said Zoological Garden.

BY-LAWS
OF THE
New York Zoological Society

AMENDED TO JANUARY 18, 1921.

ARTICLE I.

MEETINGS OF THE SOCIETY.

SECTION 1. The office and place of business of the New York Zoological Society shall be in the City of New York, unless otherwise ordered.

SEC. 2. The Society shall hold its annual meeting for the election of Managers, and other business, on the second Tuesday of January, or such day thereafter during the month of January to which said annual meeting shall adjourn.

SEC. 3. Special meetings of the Society shall be called by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of ten members.

SEC. 4. Notices of all meetings shall be mailed to each member of the Society at least three days before such meeting.

SEC. 5. At meetings of the Society twenty members shall constitute a quorum.

SEC. 6. The order of business shall be as follows:

1. Roll Call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of the Director of the Zoological Park.
7. Report of Director of the Aquarium.
8. Election of Managers.
9. Communications.
10. Miscellaneous business.
11. Reports and resolutions.

ARTICLE II.

BOARD OF MANAGERS.

SEC. 1. The Board of Managers shall consist of thirty-six members, together with the Mayor of New York and President of the Park Board, or Commissioner for the Bronx, who shall be members *ex-officio* of the Board.

SEC. 2. Nineteen Managers shall constitute a quorum, but ten Managers may transact current business, and adjourn, subject to the subsequent approval of a meeting at which a quorum shall be present.

SEC. 3. The Board of Managers shall hold an annual meeting on the third Tuesday of January, or on such day thereafter to which said annual meeting shall adjourn. Regular meetings of the Board may also be called by the Secretary on the third Tuesdays of October and April upon the request of the President or Chairman of the Executive Committee. Special meetings of the Board shall be called at any time by the Secretary upon the request of the President or Chairman of the Executive Committee, or at the written request of five managers.

SEC. 4. Notices of meetings of the board shall be mailed to each Manager at least three days before such meetings.

SEC. 5. The successors to the outgoing class of Managers shall be elected by the Society at its annual meeting, but vacancies in the board may be filled for the unexpired term by the Board of Managers, or by the Executive Committee.

SEC. 6. A Nominating Committee shall be annually appointed by the Executive Committee, and shall consist of three members of the Society at large, who shall nominate and post ten days before the annual election the names of twelve persons to succeed the outgoing class of Managers in a conspicuous place in the office of the Society.

SEC. 7. No person shall be eligible for the election of the Board of Managers except to fill vacancies, unless his name shall have been posted as a candidate by such committee, or by not less than ten members, in writing, in a conspicuous place in the office of the Society ten days before the annual election. All candidates for election as Managers must be Life Members, Patrons, Associate Founders, or Founders of the Society.

SEC. 8. Any Manager who shall fail to attend three consecutive meetings of the Board, unless excused by a vote of the Board, shall cease to be a Manager.

SEC. 9. The Board of Managers shall at its annual meeting elect a President, two Vice-Presidents, a Secretary, and Treasurer, who shall hold office for one year, or until their successors are elected. The President, Vice-Presidents, and Treasurer shall be members of the Board.

SEC. 10. The Director of the Zoological Park, the Director of the Aquarium, and all other persons employed by the Society, shall be appointed by the Board or by the Executive Committee, and shall hold office during the pleasure of the Board.

SEC. 11. The Board shall, at its annual meeting, elect an Executive Committee and Auditing Committee, which shall hold office for one year, or until their successors are elected. The Board of Managers and the Executive Committee shall also have authority to appoint such other Committees or officers as they may at any time deem advisable and to delegate to them such powers as may be necessary.

SEC. 12. The order of business of the meetings of the Board shall be as follows:

1. Roll Call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.

6. Report of Auditing Committee.
7. Report of Director of Zoological Park.
8. Report of the Director of the Aquarium.
9. Election of Officers.
10. Election of Committees.
11. Election of new members.
12. Communications.
13. Miscellaneous business.

SEC. 13. All reports and resolutions shall be in writing, and the ayes and nays may be called on any resolution at the request of one Manager.

SEC. 14. Whenever the funds of the Society shall permit, the Board of Managers or the Executive Committee may award medals or other prizes for meritorious work connected with the objects of the Society.

ARTICLE III.

OFFICERS.

SEC. 1. The officers of the Society shall consist of a President, two Vice-Presidents, a Treasurer, a Secretary, and a Director of the Zoological Park. These officers, with the exception of the Director, shall be elected at the annual meeting of the Board of Managers, but any vacancy may be filled for an unexpired term by the Board of Managers, or by the Executive Committee, until the next annual election.

SEC. 2. The President shall preside at all meetings of the Board and of the Society, and shall be *ex-officio* a member of the Executive and Auditing Committees.

SEC. 3. The Vice-Presidents shall, in the absence of the President, perform his duties and possess his powers, acting in the order of their election.

SEC. 4. The Treasurer shall receive, collect and hold, subject to the order of the Board of Managers, or the Executive Committee, all dues, subscriptions, warrants from the City, fees and securities. He shall pay all bills as ordered by the Board of Managers or the Executive Committee, and shall report to the Society at its annual meeting, and to the Board of Managers at all regular meetings, and to the Executive Committee at each meeting. He shall keep all moneys and securities in some bank or trust company to be approved by the Board of Managers or Executive Committee. The books of the Society shall at all times be open to the inspection of the Managers.

SEC. 5. The Secretary shall be a salaried officer of the Society. He shall be present, unless otherwise relieved by the Board or Executive Committee, at all meetings of the Society, of the Board and of the Standing Committees. He shall keep a careful record of all proceedings, shall have the custody of the seal, archives and books, other than books of account, and shall conduct the correspondence of the Society. He shall issue all notices and tickets, and shall perform such other duties as the Board may direct. He shall be a member *ex-officio* of the Executive, Aquarium, and Auditing Committees, and of the Scientific Council.

SEC. 6. The Director of the Zoological Park shall be elected annually by the Executive Committee at a salary to be determined by said Committee, and shall hold office until removed or his successor chosen by said Committee. He shall

be the responsible administrative officer of the Park, and shall recommend to the Executive Committee candidates for the various positions in the Park. He shall also perform all such other duties in connection with the business, scientific, and literary administration of the Society as may be assigned to him by the Executive Committee.

SEC. 7. The Director of the Aquarium shall be elected annually by the Executive Committee, and shall hold office until removed or his successor is chosen by said Committee. He shall be the responsible administrative officer of the Aquarium, and shall recommend to the Executive Committee all candidates for positions in the Aquarium. The director of the Aquarium shall be *ex-officio* a member and Chairman of the Aquarium Committee. He shall perform such other duties in connection with the Aquarium as may be assigned to him by the Executive Committee.

ARTICLE IV.

COMMITTEES.

SEC. 1. There shall be two standing committees, the Executive Committee and the Auditing Committee, which shall hold office for one year or until their successors are elected.

SEC. 2.—The Executive Committee shall consist of eight Managers, together with the President, Secretary and Treasurer of the Society *ex-officio*. Four members including the Chairman shall constitute a quorum, and all meetings shall be called by the Chairman. The Executive Committee shall fill all vacancies in its own number and shall have the full power of the Board of Managers, except so far as such delegation of power may be contrary to law.

SEC. 3. The Executive Committee shall have the control and regulation of the collections, library, and all other property of the Society, and shall have power to purchase, sell, and exchange specimens and books, to employ and control all officials and employees of the Society, Park, and Aquarium, and generally to carry out in detail the directions of the Board of Managers and the terms of any contract between the City, or Park Board, and the Society.

SEC. 4. All the rules and regulations for the examination of applicants for the various positions in the Park and Aquarium shall be made or approved by the Executive Committee.

SEC. 5. The Executive Committee may regulate the auditing and payment for all current accounts.

SEC. 6. The Executive Committee shall annually appoint an Aquarium Committee, whose duties and powers are set forth in Section II of Article IV of these By-Laws.

SEC. 7. The Executive Committee shall annually appoint a Nominating Committee, whose duties and powers are set forth in Sections 6 and 7, Article II, of these By-Laws.

SEC. 8. It shall also appoint a Scientific Council, whose powers and duties are set forth in Section 2 of Article V of these By-Laws.

SEC. 9. The Committee shall make a written report at each regular meeting of the Board of Managers.

SEC. 10. The Auditing Committee shall consist of three regular members of the Society, in addition to the President and Secretary, members *ex-officio*, and vacancies shall be filled by the Executive Committee. It shall be the duty of

the Auditing Committee to audit, annually, the accounts of the Treasurer, of the Director of the Zoological Park, and of the Director of the Aquarium, and any other accounts of the Society, and shall report to the Board of Managers at its annual meeting.

SEC. 11. The Executive Committee shall annually appoint an Aquarium Committee, not to exceed eight members of this Society, who shall hold office until their successors are chosen. All vacancies shall be filled by the Executive Committee. The Director of the Aquarium shall be *ex-officio* a member and the Chairman of the Aquarium Committee, and such Committee may vest in him any or all of its powers. The Chairman of the Executive Committee and the Secretary of the Society shall also be *ex-officio* members of the Aquarium Committee. Three members shall constitute a quorum. The Executive Committee may delegate to the Aquarium Committee such powers as it may deem proper.

ARTICLE V.

SCIENTIFIC COUNCIL.

SEC. 1. The Executive Committee shall annually appoint a Scientific Council of not more than ten members, and shall fill all vacancies. Members of the Council shall hold office until their successors are appointed.

SEC. 2. The duties of the Council shall be to act as an advisory board in all matters pertaining to the scientific administration of the Society, and especially as to the scientific features of the Park, the promotion of zoology by publications and otherwise, and the preservation of the native fauna of America.

SEC. 3. Four members, including the Chairman, shall constitute a quorum. The Chairman shall be elected annually by the Council. The Chairman of the Executive Committee and the Secretary of the Society shall be members *ex-officio* of the Council.

ARTICLE VI.

MEMBERS.

SEC. 1. The present members and such others as shall become associated with them, under the conditions prescribed by the By-Laws, shall be members of this Society as long as they shall comply with the By-Laws.

SEC. 2. Members failing to comply with these By-Laws, or for other good and sufficient cause, may be expelled from the Society by the Executive Committee.

SEC. 3. Candidates for membership shall be proposed and seconded by members of the Society. The name, occupation, and place of residence of every member as proposed shall be submitted for election to the Board of Managers or the Executive Committee, and such person, when elected, shall become a member upon payment of the annual dues, or of the fees as prescribed below.

SEC. 4. There shall be a class known as Fellows, which shall consist of members of the Society who have rendered marked services to science, and shall be chosen by the Executive Committee. The privileges of Fellows shall be in all respects the same as those of regular members of the Society, but they shall be exempt from the payment of annual dues.

SEC. 5. The annual dues shall be ten dollars, payable in advance, on the first day of May of each year, but the Executive Committee may remit the dues

for the current year in the case of members elected between January 1st and May 1st of each year. The classes of membership shall be as follows:

SEC. 6. The payment of \$200 at one time shall constitute any member a Life Member.

A member who has paid annual dues for a period of five years may thereafter, at any time, upon the payment of the difference between the amount of dues already paid and \$200, become a Life Member, but such payment shall be not less than \$100.

SEC. 7. The payment of \$1,000 at one time, or in the case of a Life Member, of \$800, shall constitute any member a Patron.

SEC. 8. The payment of \$2,500 at one time, or in the case of a Patron of \$1,500, or of a Life Member of \$2,300, shall constitute any member an Associate Founder.

SEC. 9. Any member who shall donate to the Society \$5,000, or property of equal value, or any Associate Founder who shall donate \$2,500, or any Patron who shall donate \$1,000, may be elected by the Board of Managers or Executive Committee a Founder.

SEC. 10. Any member who shall have donated to the Society ten thousand dollars (\$10,000), or its equivalent, may be elected by the Board of Managers or the Executive Committee a Founder in Perpetuity. Such Founder in Perpetuity shall have the power to designate by a last will and testament his successor, who shall thereupon be entitled to all the rights and privileges of the original Founder in Perpetuity, including the right of designating in turn his successor.

SEC. 11. Any member who shall have donated to the Society \$25,000, or its equivalent, may be elected by the Board of Managers, or the Executive Committee, a Benefactor. Benefactors shall have the rights and privileges of a Founder in Perpetuity.

SEC. 12. Persons who have rendered marked service in the science of zoology or natural history may be elected Honorary Members, but not more than three such Honorary Members shall be elected in any one calendar year.

SEC. 13. A resident member who shall have rendered marked scientific or professional services to the Society in any branch of its work may be elected by the Executive Committee a Life Member, Patron, Associate Founder, or Founder. A resident of New York who shall have rendered marked service in zoology or natural history may be elected by the Executive Committee a Permanent Fellow.

SEC. 14. Non-residents who communicate valuable information to the Society, or who have rendered marked service in the science of zoology or natural history, may be elected Corresponding Members.

SEC. 15. Benefactors, Founders in Perpetuity, Founders, Associate Founders, Patrons, Life Members, Honorary Members, Permanent Fellows, Fellows, and Corresponding Members shall be exempt from annual dues.

ARTICLE VII.

PRIVILEGES OF MEMBERS.

SEC. 1. A member's ticket admits the member and his immediate family to the Park on reserve days, and to all lectures and special exhibitions, and may be used by the member's immediate family, and shall be good for the current year.

SEC. 2. Admission tickets to the Park and Aquarium on reserve days are issued to members for distribution, and are good for the current year.

SEC. 3. Each member of the Society is entitled annually to a member's ticket and to ten admission tickets.

SEC. 4. Each member shall also receive one copy of the catalogue or hand-book, the report and official publication of the Society, and shall have all the privileges of the Library and Members' Building.

SEC. 5. No member shall be entitled to the privileges enumerated in this Article unless his annual dues shall have been paid.

SEC. 6. The Life Members shall have all the privileges of members and ten additional admission tickets.

SEC. 7. Benefactors, Founders in Perpetuity, Founders, Associate Founders and Patrons shall have all the privileges of Life Members, and shall in addition receive copies of all scientific works published by the Society.

SEC. 8. Any member who shall fail to pay his annual dues within three months after the same shall have become due, and after notice of thirty days, by mail, shall cease to be a member of the Society; subject, however, to reinstatement by the Board of Managers or Executive Committee for good cause shown.

SEC. 9. Any person elected to membership who shall fail to qualify within three months after notice of his election shall be considered to have declined his election; but such term may be extended by the Board of Managers, or Executive Committee.

ARTICLE VIII.

FINANCES.

SEC. 1. The fiscal year of the corporation shall be the calendar year commencing January 1st and ending December 31st.

SEC. 2. Neither the Society nor any of its Managers or Officers shall contract any debt which, with existing debts, shall exceed in amount the funds then in the Treasury, except to meet expenditures for which the City is liable, and for which the Society will be reimbursed by warrants from the Comptroller's office.

ARTICLE IX.

AMENDMENTS

SEC. 1. Amendments to these By-Laws may be proposed, in writing, at any meeting of the Board of Managers, and adopted by unanimous consent of the Managers present, or if such proposed amendment shall fail to receive unanimous consent, the Secretary shall, with the notices of the next meeting, send a copy of it to each Manager and state that it will be brought up for action at such meeting, when it may be passed by a majority vote.

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